SEQUENCE LISTING

<110> Malyankar et al.

<120> Novel Polypeptides and Nucleic Acids Encoding Same

<130> 15966-675 CIP2

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<141> 2001-10-03

<150> 60/182,733
<151> 2000-02-15

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<151> 2000-02-24

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<150> 60/236,060
<151> 2000-09-27

<150> 60/259,414
<151> 2001-01-02

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<150> 09/783,429

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<170> PatentIn Ver. 2.1

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<213> Homo sapiens

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<213> Homo sapiens

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Asp Gln Glu Ser Ser Gln Pro Val Gly Ser Val Ile Val Gln Glu Pro
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Thr Glu Glu Lys Arg Gln Glu Glu Glu Pro Pro Thr Asp Asn Gln Gly
35 40 45

Pro Asp Met Glu Ala Phe Gln Gln Glu Leu Ala Leu Leu Lys Ile Glu
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Asp Glu Pro Gly Asp Gly Pro Asp Val Arg Glu Gly Ile Met Pro Thr
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Phe Asp Leu Thr Lys Val Leu Glu Ala Gly Asp Ala Gln Pro
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<212> DNA
<213> Homo sapiens

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actgaggaaa aacgtcaaga agaggaacca ccaactgata atcagggtat tgcacctagt 180
ggggagatcg aaaatgaagg agcacctgcc gttcaagggc ctgacatgga agcttttcaa 240

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gtttcaagca agacaaatga agactgaaac caagaacgtt attcttaatc tggaaatttg 420
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<213> Homo sapiens

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Thr Glu Glu Lys Arg Gln Glu Glu Glu Pro Pro Thr Asp Asn Gln Gly
35 40 45

Ile Ala Pro Ser Gly Glu Ile Glu Asn Glu Gly Ala Pro Ala Val Gln
50 55 60

Gly Pro Asp Met Glu Ala Phe Gln Gln Glu Leu Ala Leu Leu Lys Ile
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Glu Asp Glu Pro Gly Asp Gly Pro Asp Val Arg Glu Gly Ile Met Pro
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Asp Gln Glu Ser Ser Gln Pro Val Gly Ser Val Ile Val Gln Glu Pro
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Thr Glu Glu Lys Arg Gln Glu Glu Glu Pro Pro Thr Asp Asn Gln Gly
35 40 45

Ile Ala Pro Ser Gly Glu Ile Glu Asn Gln Ala Val Pro Ala Phe Gln
50 55 60

Gly Pro Asp Met Glu Ala Phe Gln Gln Glu Leu Ala Leu Leu Lys Ile
65 70 75 80

Glu Asp Glu Pro Gly Asp Gly Pro Asp Val Arg Glu Gly Ile Met Pro
85 90 95

Thr Phe Asp Leu Thr Lys Val Leu Glu Ala Gly Asp Ala Gln Pro
100 105 110

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<212> PRT
<213> Homo sapiens

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Glu Pro Lys Glu Glu Lys Pro Pro Thr Lys Ser Arg Asn Pro Thr Pro
35 40 45

Asp Ser Arg Arg Glu Lys Met Ile Arg Val Gln Leu Arg Phe Lys Cys
50 55 60

Leu Thr Trp Lys Pro Ile Ser Arg Ser Tyr Val Arg Gln Arg Leu Gly
65 70 75 80

Met Asp Val Lys Val Val Leu Met Ser Arg Gly Arg Phe Tyr Gln Lys
85 90 95

Gln Ser Thr Leu Lys Cys Gln Lys Gln Val Lys Gly Asn His Arg Phe
100 105 110

Lys Gly Arg
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<211> 673
<212> DNA
<213> Homo sapiens

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Leu Asn Val His Leu Arg Arg Val Thr Trp Gln Asn Leu Arg His Leu
        35                  40                  45

Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys Leu Arg Glu Asn Ile
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Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Tyr Thr Gln Pro Met Lys
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Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser Leu Gln Ala Phe Asn
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Ile Phe Ser Gln His Thr Phe Lys Tyr Trp Lys Glu Arg His Leu Lys
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Gln Ile Gln Ile Gly Leu Asp Gln Gln Ala Glu Tyr Leu Asn Gln Cys
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Leu Glu Glu Asp Lys Asn Glu Asn Glu Asp Met Lys Glu Met Lys Glu
    130                 135                 140

Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro Gln Leu Ser Ser Leu
145                 150                 155                 160

Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn Phe Leu Lys Glu Lys
                165                 170                 175

Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg Val Glu Ile Arg Arg
            180                 185                 190

Cys Leu Tyr Tyr Phe Tyr Lys Phe Thr Ala Leu Phe Arg Arg Lys
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<213> Homo sapiens

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<212> PRT
<213> Homo sapiens

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Leu Asn Val His Leu Arg Arg Val Thr Trp Gln Asn Leu Arg His Leu
35 40 45

Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys Leu Arg Glu Asn Ile
50 55 60

Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Tyr Thr Gln Pro Met Lys
65 70 75 80

Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser Leu Gln Ala Phe Asn
85 90 95

Ile Phe Ser Gln His Thr Phe Lys Tyr Trp Lys Glu Arg His Leu Lys
100 105 110

Gln Ile Gln Ile Gly Leu Asp Gln Gln Ala Glu Tyr Leu Asn Gln Cys
115 120 125

Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met Lys Glu Met Lys Glu
130 135 140

Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro Gln Leu Ser Ser Leu
145 150 155 160

Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn Phe Leu Lys Glu Lys
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Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg Val Glu Ile Arg Arg
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Cys Leu Tyr Tyr Phe Tyr Lys Phe Thr Ala Leu Phe Arg Arg Lys
195 200 205

<210> 13
<211> 9087
<212> DNA
<213> Homo sapiens

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35 40 45

Thr Tyr Ala Val Gly Ala Ala Cys Thr Pro Arg Ala Pro Arg Glu Leu
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Leu Asp Val Gly Arg Asp Gly Arg Leu Ala Gly Arg Arg Arg Val Ser
65 70 75 80

Gly Ala Gly Arg Pro Leu Pro Leu Gln Val Arg Leu Val Ala Arg Ser

```
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Ala Pro Thr Ala Leu Ser Arg Arg Leu Arg Ala Arg Thr His Leu Pro
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Gly Cys Gly Ala Arg Ala Arg Leu Cys Gly Thr Gly Ala Arg Leu Cys
        115                 120                 125

Gly Ala Leu Cys Phe Pro Val Pro Gly Gly Cys Ala Ala Ala Gln His
    130                 135                 140

Ser Ala Leu Ala Ala Pro Thr Thr Leu Pro Ala Cys Arg Cys Pro Pro
145                 150                 155                 160

Arg Pro Arg Pro Arg Cys Pro Gly Arg Pro Ile Cys Leu Pro Pro Gly
                165                 170                 175

Gly Ser Val Arg Leu Arg Leu Leu Cys Ala Leu Arg Arg Ala Ala Gly
            180                 185                 190

Ala Val Arg Val Gly Leu Ala Leu Glu Ala Ala Thr Ala Gly Thr Pro
        195                 200                 205

Ser Ala Ser Pro Ser Pro Ser Pro Pro Leu Pro Pro Asn Leu Pro Glu
    210                 215                 220

Ala Arg Ala Gly Pro Ala Arg Arg Ala Arg Arg Gly Thr Ser Gly Arg
225                 230                 235                 240

Gly Ser Leu Lys Phe Pro Met Pro Asn Tyr Gln Val Ala Leu Phe Glu
                245                 250                 255

Asn Glu Pro Ala Gly Thr Leu Ile Leu Gln Leu His Ala His Tyr Thr
            260                 265                 270

Ile Glu Gly Glu Glu Glu Arg Val Ser Tyr Tyr Met Glu Gly Leu Phe
        275                 280                 285

Asp Glu Arg Ser Arg Gly Tyr Phe Arg Ile Asp Ser Ala Thr Gly Ala
    290                 295                 300

Val Ser Thr Asp Ser Val Leu Asp Arg Glu Thr Lys Glu Thr His Val
305                 310                 315                 320

Leu Arg Val Lys Ala Val Asp Tyr Ser Thr Pro Pro Arg Ser Ala Thr
                325                 330                 335

Thr Tyr Ile Thr Val Leu Val Lys Asp Thr Asn Asp His Ser Pro Val
            340                 345                 350

Phe Glu Gln Ser Glu Tyr Arg Glu Arg Val Arg Glu Asn Leu Glu Val
        355                 360                 365

Gly Tyr Glu Val Leu Thr Ile Arg Ala Ser Asp Arg Asp Ser Pro Ile
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Asn Ala Asn Leu Arg Tyr Arg Val Leu Gly Gly Ala Trp Asp Val Phe
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Gly Arg Asn Pro Gly Pro Leu Ser Ala Thr Ala Thr Val Tyr Ile Glu
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Val Glu Asp Glu Asn Asp Asn Tyr Pro Gln Phe Ser Glu Gln Asn Tyr
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Val Val Gln Val Pro Glu Asp Val Gly Leu Asn Thr Ala Val Leu Arg
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Val Gln Ala Thr Asp Arg Asp Gln Gly Gln Asn Ala Ala Ile His Tyr
485 490 495

Ser Ile Leu Ser Gly Asn Val Ala Gly Gln Phe Tyr Leu His Ser Leu
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Ser Gly Ile Leu Asp Val Ile Asn Pro Leu Asp Phe Glu Asp Val Gln
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Lys Tyr Ser Leu Ser Ile Lys Ala Gln Asp Gly Gly Arg Pro Pro Leu
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Ile Asn Ser Ser Gly Val Val Ser Val Gln Val Leu Asp Val Asn Asp
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Asn Glu Pro Ile Phe Val Ser Ser Pro Phe Gln Ala Thr Val Leu Glu
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Asn Val Pro Leu Gly Tyr Pro Val Val His Ile Gln Ala Val Asp Ala
580 585 590

Asp Ser Gly Glu Asn Ala Arg Leu His Tyr Arg Leu Val Asp Thr Ala
595 600 605

Ser Thr Phe Leu Gly Gly Gly Ser Ala Gly Pro Lys Asn Pro Ala Pro
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Thr Pro Asp Phe Pro Phe Gln Ile His Asn Ser Ser Gly Trp Ile Thr
625 630 635 640

Val Cys Ala Glu Leu Asp Arg Glu Glu Val Glu His Tyr Ser Phe Gly
645 650 655

Val Glu Ala Val Asp His Gly Ser Pro Pro Met Ser Ser Ser Thr Ser
660 665 670

Val Ser Ile Thr Val Leu Asp Val Asn Asp Asn Asp Pro Val Phe Thr
675 680 685

Gln Pro Thr Tyr Glu Leu Arg Leu Asn Glu Asp Ala Ala Val Gly Ser

690 695 700

Ser Val Leu Thr Leu Gln Ala Arg Asp Arg Asp Ala Asn Ser Val Ile
705 710 715 720

Thr Tyr Gln Leu Thr Gly Gly Asn Thr Arg Asn Arg Phe Ala Leu Ser
725 730 735

Ser Gln Arg Gly Gly Gly Leu Ile Thr Leu Ala Leu Pro Leu Asp Tyr
740 745 750

Lys Gln Glu Gln Gln Tyr Val Leu Ala Val Thr Ala Ser Asp Gly Thr
755 760 765

Arg Ser His Thr Ala His Val Leu Ile Asn Val Thr Asp Ala Asn Thr
770 775 780

His Arg Pro Val Phe Gln Ser Ser His Tyr Thr Val Ser Val Ser Glu
785 790 795 800

Asp Arg Pro Val Gly Thr Ser Ile Ala Thr Leu Ser Ala Asn Asp Glu
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Asp Thr Gly Glu Asn Ala Arg Ile Thr Tyr Val Ile Gln Asp Pro Val
820 825 830

Pro Gln Phe Arg Ile Asp Pro Asp Ser Gly Thr Met Tyr Thr Met Met
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Glu Leu Asp Tyr Glu Asn Gln Val Ala Tyr Thr Leu Thr Ile Met Ala
850 855 860

Gln Asp Asn Gly Ile Pro Gln Lys Ser Asp Thr Thr Thr Leu Glu Ile
865 870 875 880

Leu Ile Leu Asp Ala Asn Asp Asn Ala Pro Gln Phe Leu Trp Asp Phe
885 890 895

Tyr Gln Gly Ser Ile Phe Glu Asp Ala Pro Pro Ser Thr Ser Ile Leu
900 905 910

Gln Val Ser Ala Thr Asp Arg Asp Ser Gly Pro Asn Gly Arg Leu Leu
915 920 925

Tyr Thr Phe Gln Gly Gly Asp Asp Gly Asp Gly Asp Phe Tyr Ile Glu
930 935 940

Pro Thr Ser Gly Val Ile Arg Thr Gln Arg Arg Leu Asp Arg Glu Asn
945 950 955 960

Val Ala Val Tyr Asn Leu Trp Ala Leu Ala Val Asp Arg Gly Ser Pro
965 970 975

Thr Pro Leu Ser Ala Ser Val Glu Ile Gln Val Thr Ile Leu Asp Ile
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Asn Asp Asn Ala Pro Met Phe Glu Lys Asp Glu Leu Glu Leu Phe Val

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Glu Glu Asn Asn Pro Val Gly Ser Val Val Ala Lys Ile Arg Ala Asn
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Asp Pro Asp Glu Gly Pro Asn Ala Gln Ile Met Tyr Gln Ile Val Glu
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Gly Asp Met Arg His Phe Phe Gln Leu Asp Leu Leu Asn Gly Asp Leu
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Arg Ala Met Val Glu Leu Asp Phe Glu Val Arg Arg Glu Tyr Val Leu
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Val Val Gln Ala Thr Ser Ala Pro Leu Val Ser Arg Ala Thr Val His
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Ile Leu Leu Val Asp Gln Asn Asp Asn Pro Pro Val Leu Pro Asp Phe
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Gln Ile Leu Phe Asn Asn Tyr Val Thr Asn Lys Ser Asn Ser Phe Pro
1105 1110 1115 1120

Thr Gly Val Ile Gly Cys Ile Pro Ala His Asp Pro Asp Val Ser Asp
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Ser Leu Asn Tyr Thr Phe Val Gln Gly Asn Glu Leu Arg Leu Leu Leu
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Leu Asp Pro Ala Thr Gly Glu Leu Gln Leu Ser Arg Asp Leu Asp Asn
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Ile His Ser Val Thr Ala Phe Cys Thr Leu Arg Val Thr Ile Ile Thr
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Asp Asp Met Leu Thr Asn Ser Ile Thr Val Arg Leu Glu Asn Met Ser
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Gln Glu Lys Phe Leu Ser Pro Leu Leu Ala Leu Phe Val Glu Gly Val
1220 1225 1230

Ala Ala Val Leu Ser Thr Thr Lys Asp Asp Val Phe Val Phe Asn Val
1235 1240 1245

Gln Asn Asp Thr Asp Val Ser Ser Asn Ile Leu Asn Val Thr Phe Ser
1250 1255 1260

Ala Leu Leu Pro Gly Gly Val Arg Gly Gln Phe Phe Pro Ser Glu Asp
1265 1270 1275 1280

Leu Gln Glu Gln Ile Tyr Leu Asn Arg Thr Leu Leu Thr Thr Ile Ser
1285 1290 1295

Thr Gln Arg Val Leu Pro Phe Asp Asp Asn Ile Cys Leu Arg Glu Pro

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          1300                1305                1310

Cys Glu Asn Tyr Met Lys Cys Val Ser Val Leu Arg Phe Asp Ser Ser
       1315                1320                1325

Ala Pro Phe Leu Ser Ser Thr Thr Val Leu Phe Arg Pro Ile His Pro
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Ile Asn Gly Leu Arg Cys Arg Cys Pro Pro Gly Phe Thr Gly Asp Tyr
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Cys Glu Thr Glu Ile Asp Leu Cys Tyr Ser Asp Pro Cys Gly Ala Asn
               1365                1370                1375

Gly Arg Cys Arg Ser Arg Glu Gly Gly Tyr Thr Cys Glu Cys Phe Glu
           1380                1385                1390

Asp Phe Thr Gly Glu His Cys Glu Val Asp Ala Arg Ser Gly Arg Cys
       1395                1400                1405

Ala Asn Gly Val Cys Lys Asn Gly Gly Thr Cys Val Asn Leu Leu Ile
   1410                1415                1420

Gly Gly Phe His Cys Val Cys Pro Pro Gly Glu Tyr Glu Arg Pro Tyr
1425                1430                1435                1440

Cys Glu Val Thr Thr Arg Ser Phe Pro Pro Gln Ser Phe Val Thr Phe
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Arg Gly Leu Arg Gln Arg Phe His Phe Thr Ile Ser Leu Thr Phe Ala
           1460                1465                1470

Thr Gln Glu Arg Asn Gly Leu Leu Leu Tyr Asn Gly Arg Phe Asn Glu
       1475                1480                1485

Lys His Asp Phe Ile Ala Leu Glu Ile Val Asp Glu Gln Val Gln Leu
   1490                1495                1500

Thr Phe Ser Ala Gly Ala Gly Glu Thr Thr Thr Thr Val Ala Pro Lys
1505                1510                1515                1520

Val Pro Ser Gly Val Ser Asp Gly Arg Trp His Ser Val Gln Val Gln
               1525                1530                1535

Tyr Tyr Asn Lys Val Arg Trp Ala Pro Pro Leu Pro Pro Gly Pro Gln
           1540                1545                1550

Pro Asn Ile Gly His Leu Gly Leu Pro His Gly Pro Ser Gly Glu Lys
       1555                1560                1565

Met Ala Val Val Thr Val Asp Asp Cys Asp Thr Thr Met Ala Val Arg
   1570                1575                1580

Phe Gly Lys Asp Ile Gly Asn Tyr Ser Cys Ala Ala Gln Gly Thr Gln
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Thr Gly Ser Lys Lys Ser Leu Asp Leu Thr Gly Pro Leu Leu Leu Gly
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Gly Val Pro Asn Leu Pro Glu Asp Phe Pro Val His Asn Arg Gln Phe
            1620                1625                1630

Val Gly Cys Met Arg Asn Leu Ser Val Asp Gly Lys Asn Val Asp Met
        1635                1640                1645

Ala Gly Phe Ile Ala Asn Asn Gly Thr Arg Glu Gly Cys Ala Ala Arg
    1650                1655                1660

Arg Asn Phe Cys Asp Gly Arg Arg Cys Gln Asn Gly Gly Thr Cys Val
1665                1670                1675                1680

Asn Arg Trp Asn Met Tyr Leu Cys Glu Cys Pro Leu Arg Phe Gly Gly
                1685                1690                1695

Lys Asn Cys Glu Gln Ala Met Pro His Pro Gln Leu Phe Ser Gly Glu
            1700                1705                1710

Ser Val Val Ser Trp Ser Asp Leu Asn Ile Ile Ile Ser Val Pro Trp
        1715                1720                1725

Tyr Leu Gly Leu Met Phe Arg Thr Arg Lys Glu Asp Ser Val Leu Met
    1730                1735                1740

Glu Ala Thr Ser Gly Gly Pro Thr Ser Phe Arg Leu Gln Ile Leu Asn
1745                1750                1755                1760

Asn Tyr Leu Gln Phe Glu Val Ser His Gly Pro Ser Asp Val Glu Ser
                1765                1770                1775

Val Met Leu Ser Gly Leu Arg Val Thr Asp Gly Glu Trp His His Leu
            1780                1785                1790

Leu Ile Glu Leu Lys Asn Val Lys Glu Asp Ser Glu Met Lys His Leu
        1795                1800                1805

Val Thr Met Thr Leu Asp Tyr Gly Met Asp Gln Asn Lys Ala Asp Ile
    1810                1815                1820

Gly Gly Met Leu Pro Gly Leu Thr Val Arg Ser Val Val Val Gly Gly
1825                1830                1835                1840

Ala Ser Glu Asp Lys Val Ser Val Arg Arg Gly Phe Arg Gly Cys Met
                1845                1850                1855

Gln Gly Val Arg Met Gly Gly Thr Pro Thr Asn Val Ala Thr Leu Asn
            1860                1865                1870

Met Asn Asn Ala Leu Lys Val Arg Val Lys Asp Gly Cys Asp Val Asp
        1875                1880                1885

Asp Pro Cys Thr Ser Ser Pro Cys Pro Pro Asn Ser Arg Cys His Asp
    1890                1895                1900

Ala Trp Glu Asp Tyr Ser Cys Val Cys Asp Lys Gly Tyr Leu Gly Ile
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1905                1910                1915                1920

Asn Cys Val Asp Ala Cys His Leu Asn Pro Cys Glu Asn Met Gly Ala
                1925                1930                1935

Cys Val Arg Ser Pro Gly Ser Pro Gln Gly Tyr Val Cys Glu Cys Gly
            1940                1945                1950

Pro Ser His Tyr Gly Pro Tyr Cys Glu Asn Lys Leu Asp Leu Pro Cys
        1955                1960                1965

Pro Arg Gly Trp Trp Gly Asn Pro Val Cys Gly Pro Cys His Cys Ala
    1970                1975                1980

Val Ser Lys Gly Phe Asp Pro Asp Cys Asn Lys Thr Asn Gly Gln Cys
1985                1990                1995                2000

Gln Cys Lys Glu Asn Tyr Tyr Lys Leu Leu Ala Gln Asp Thr Cys Leu
                2005                2010                2015

Pro Cys Asp Cys Phe Pro His Gly Ser His Ser Arg Thr Cys Asp Met
            2020                2025                2030

Ala Thr Gly Gln Cys Ala Cys Lys Pro Gly Val Ile Gly Arg Gln Cys
        2035                2040                2045

Asn Arg Cys Asp Asn Pro Phe Ala Glu Val Thr Thr Leu Gly Cys Glu
    2050                2055                2060

Val Ile Tyr Asn Gly Cys Pro Lys Ala Phe Glu Ala Gly Ile Trp Trp
2065                2070                2075                2080

Pro Gln Thr Lys Phe Gly Gln Pro Ala Ala Val Pro Cys Pro Lys Gly
                2085                2090                2095

Ser Val Gly Asn Ala Val Arg His Cys Ser Gly Glu Lys Gly Trp Leu
            2100                2105                2110

Pro Pro Glu Leu Phe Asn Cys Thr Thr Ile Ser Phe Val Asp Leu Arg
        2115                2120                2125

Ala Met Asn Glu Lys Leu Ser Arg Asn Glu Thr Gln Val Asp Gly Ala
    2130                2135                2140

Arg Ala Leu Gln Leu Val Arg Ala Leu Arg Ser Ala Thr Gln His Thr
2145                2150                2155                2160

Gly Thr Leu Phe Gly Asn Asp Val Arg Thr Ala Tyr Gln Leu Leu Gly
                2165                2170                2175

His Val Leu Gln His Glu Ser Trp Gln Gln Gly Phe Asp Leu Ala Ala
            2180                2185                2190

Thr Gln Asp Ala Asp Phe His Glu Asp Val Ile His Ser Gly Ser Ala
        2195                2200                2205

Leu Leu Ala Pro Ala Thr Arg Ala Ala Trp Glu Gln Ile Gln Arg Ser
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Glu Gly Gly Thr Ala Gln Leu Leu Arg Arg Leu Glu Gly Tyr Phe Ser
2225                2230                2235                2240

Asn Val Ala Arg Asn Val Arg Arg Thr Tyr Leu Arg Pro Phe Val Ile
                2245                2250                2255

Val Thr Ala Asn Met Val Leu Ala Val Asp Ile Phe Asp Lys Phe Asn
            2260                2265                2270

Phe Thr Gly Ala Arg Val Pro Arg Phe Asp Thr Ile His Glu Glu Phe
        2275                2280                2285

Pro Arg Glu Leu Glu Ser Ser Val Ser Phe Pro Ala Asp Phe Phe Arg
    2290                2295                2300

Pro Pro Glu Glu Lys Glu Gly Pro Leu Leu Arg Pro Ala Gly Arg Arg
2305                2310                2315                2320

Thr Thr Pro Gln Thr Thr Arg Pro Gly Pro Gly Thr Glu Arg Glu Ala
                2325                2330                2335

Pro Ile Ser Arg Arg Arg Arg His Pro Asp Asp Ala Gly Gln Phe Ala
            2340                2345                2350

Val Ala Leu Val Ile Ile Tyr Arg Thr Leu Gly Gln Leu Leu Pro Glu
        2355                2360                2365

Arg Tyr Asp Pro Asp Arg Arg Ser Leu Arg Leu Pro His Arg Pro Ile
    2370                2375                2380

Ile Asn Thr Pro Met Val Ser Thr Leu Val Tyr Ser Glu Gly Ala Pro
2385                2390                2395                2400

Leu Pro Arg Pro Leu Glu Arg Pro Val Leu Val Glu Phe Ala Leu Leu
                2405                2410                2415

Glu Val Glu Glu Arg Thr Lys Pro Val Cys Val Phe Trp Asn His Ser
            2420                2425                2430

Leu Ala Val Gly Gly Thr Gly Gly Trp Ser Ala Arg Gly Cys Glu Leu
        2435                2440                2445

Leu Ser Arg Asn Arg Thr His Val Ala Cys Gln Cys Ser His Thr Ala
    2450                2455                2460

Ser Phe Ala Val Leu Met Asp Ile Ser Arg Arg Glu Asn Gly Glu Val
2465                2470                2475                2480

Leu Pro Leu Lys Ile Val Thr Tyr Ala Ala Val Ser Leu Ser Leu Ala
                2485                2490                2495

Ala Leu Leu Val Ala Phe Val Leu Leu Ser Leu Val Arg Met Leu Arg
            2500                2505                2510

Ser Asn Leu His Ser Ile His Lys His Leu Ala Val Ala Leu Phe Leu
```

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       2515                2520                2525

Ser Gln Leu Val Phe Val Ile Gly Ile Asn Gln Thr Glu Asn Pro Phe
   2530                2535                2540

Leu Cys Thr Val Val Ala Ile Leu Leu His Tyr Ile Tyr Met Ser Thr
2545                2550                2555                2560

Phe Ala Trp Thr Leu Val Glu Ser Leu His Val Tyr Arg Met Leu Thr
               2565                2570                2575

Glu Val Arg Asn Ile Asp Thr Gly Pro Met Arg Phe Tyr Tyr Val Val
           2580                2585                2590

Gly Trp Gly Ile Pro Ala Ile Val Thr Gly Leu Ala Val Gly Leu Asp
       2595                2600                2605

Pro Gln Gly Tyr Gly Asn Pro Asp Phe Cys Trp Leu Ser Leu Gln Asp
   2610                2615                2620

Thr Leu Ile Trp Ser Phe Ala Gly Pro Ile Gly Ala Val Ile Ile Ile
2625                2630                2635                2640

Asn Thr Val Thr Ser Val Leu Ser Ala Lys Val Ser Cys Gln Arg Lys
               2645                2650                2655

His His Tyr Tyr Gly Lys Lys Gly Ile Val Ser Leu Leu Arg Thr Ala
           2660                2665                2670

Phe Leu Leu Leu Leu Leu Ile Ser Ala Thr Trp Leu Leu Gly Leu Leu
       2675                2680                2685

Ala Val Asn Arg Asp Ala Leu Ser Phe His Tyr Leu Phe Ala Ile Phe
   2690                2695                2700

Ser Gly Leu Gln Gly Pro Phe Val Leu Leu Phe His Cys Val Leu Asn
2705                2710                2715                2720

Gln Glu Val Arg Lys His Leu Lys Gly Val Leu Gly Gly Arg Lys Leu
               2725                2730                2735

His Leu Glu Asp Ser Ala Thr Thr Arg Ala Thr Leu Leu Thr Arg Ser
           2740                2745                2750

Leu Asn Cys Asn Thr Thr Phe Gly Asp Gly Pro Asp Met Leu Arg Thr
       2755                2760                2765

Asp Leu Gly Glu Ser Thr Ala Ser Leu Asp Ser Ile Val Arg Asp Glu
   2770                2775                2780

Gly Ile Gln Lys Leu Gly Val Ser Ser Gly Leu Val Arg Gly Ser His
2785                2790                2795                2800

Gly Glu Pro Asp Ala Ser Leu Met Pro Arg Ser Cys Lys Asp Pro Pro
               2805                2810                2815

Gly His Asp Ser Asp Ser Asp Ser Glu Leu Ser Leu Asp Glu Gln Ser
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Ser Ser Tyr Ala Ser Ser His Ser Ser Asp Ser Glu Asp Asp Gly Val
       2835                2840                2845

Gly Ala Glu Glu Lys Trp Asp Pro Ala Arg Gly Ala Val His Ser Thr
   2850                2855                2860

Pro Lys Gly Asp Ala Val Ala Asn His Val Pro Ala Gly Trp Pro Asp
2865                2870                2875                2880

Gln Ser Leu Ala Glu Ser Asp Ser Glu Asp Pro Ser Gly Lys Pro Arg
               2885                2890                2895

Leu Lys Val Glu Thr Lys Val Ser Val Glu Leu His Arg Glu Glu Gln
           2900                2905                2910

Gly Ser His Arg Gly Glu Tyr Pro Pro Asp Gln Glu Ser Gly Gly Ala
       2915                2920                2925

Ala Arg Leu Ala Ser Ser Gln Pro Pro Glu Gln Arg Ser Ile Leu Lys
   2930                2935                2940

Asn Lys Val Thr Tyr Pro Pro Pro Leu Thr Leu Thr Glu Gln Thr Leu
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Lys Gly Arg Leu Arg Glu Lys Leu Ala Asp Cys Glu Gln Ser Pro Thr
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Ser Ser Arg Thr Ser Ser Leu Gly Ser Gly Gly Pro Asp Cys Ala Ile
           2980                2985                2990

Thr Val Lys Ser Pro Gly Arg Glu Pro Gly Arg Asp His Leu Asn Gly
       2995                3000                3005

Val Ala Met Asn Val Arg Thr Gly Ser Ala Gln Ala Asp Gly Ser Asp
   3010                3015                3020

Ser Glu Lys Pro
3025
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<210> 15
<211> 948
<212> DNA
<213> Homo sapiens

<400> 15
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atgcccctgc tgcccagccg gtctctcctg gtgcccctga gctctgggaa gaccctcgtc 120
cgtccccctc atgagcccgg cacggggcgt gagctggtgg gcatcactgg gggctgcgac 180
gtctcggcca ggaggcaccc ctggcaggtc agcctgaggt tctacagcat gaagaagggt 240
ctgtgggagc ccatctgtgg gggctccctc atccacccag agtgggtgct gaccgccgcc 300
cactgccttg ggcctgagga gttggaggct tgcgcgttta gagtgcaggt ggggcagctg 360
aggctctatg aggacgacca gcggacgaag gtggttgaga tcgtccgtca cccccagtac 420
aacgagagcc tgtctgccca gggcggtgcg gacatcgccc tgctgaagct ggaggccccg 480
gtgccgctgt ctgagctcat ccacccggtc tcgctcccgt ctgcctccct ggacgtgccc 540

```
tcggggaaga cctgctgggt gaccggctgg ggtgtcattg gacgtggaga actactgccc 600
tggcccctca gcttgtggga ggcgacggtg aaggtcagga gcaacgtcct ctgtaaccag 660
acctgtcgcc gccgctttcc ttccaaccac actgagcggt ttgagcggct catcaaggac 720
gacatgctgt gtgccgggga cgagcgccat ctctccccac agggcgacaa cgggggcccc 780
ctcctgtgca ggcggaattg cacctgggtc caggtggagg tggtgagctg gggcaaactc 840
tgcggccttc gcggctatcc cggcatgtac acccgcgtga cgagctacgt gtcctggatc 900
cgccagtacg tcccgccgtt ccccagacgc tagctggggt gcagtggg              948
```

<210> 16
<211> 290
<212> PRT
<213> Homo sapiens

<400> 16

```
Met Pro Leu Leu Pro Ser Arg Ser Leu Leu Val Pro Leu Ser Ser Gly
  1               5                  10                  15

Lys Thr Leu Val Arg Pro Pro His Glu Pro Gly Thr Gly Arg Glu Leu
             20                  25                  30

Val Gly Ile Thr Gly Gly Cys Asp Val Ser Ala Arg Arg His Pro Trp
         35                  40                  45

Gln Val Ser Leu Arg Phe Tyr Ser Met Lys Lys Gly Leu Trp Glu Pro
     50                  55                  60

Ile Cys Gly Gly Ser Leu Ile His Pro Glu Trp Val Leu Thr Ala Ala
 65                  70                  75                  80

His Cys Leu Gly Pro Glu Glu Leu Glu Ala Cys Ala Phe Arg Val Gln
                 85                  90                  95

Val Gly Gln Leu Arg Leu Tyr Glu Asp Asp Gln Arg Thr Lys Val Val
            100                 105                 110

Glu Ile Val Arg His Pro Gln Tyr Asn Glu Ser Leu Ser Ala Gln Gly
        115                 120                 125

Gly Ala Asp Ile Ala Leu Leu Lys Leu Glu Ala Pro Val Pro Leu Ser
    130                 135                 140

Glu Leu Ile His Pro Val Ser Leu Pro Ser Ala Ser Leu Asp Val Pro
145                 150                 155                 160

Ser Gly Lys Thr Cys Trp Val Thr Gly Trp Gly Val Ile Gly Arg Gly
                165                 170                 175

Glu Leu Leu Pro Trp Pro Leu Ser Leu Trp Glu Ala Thr Val Lys Val
            180                 185                 190

Arg Ser Asn Val Leu Cys Asn Gln Thr Cys Arg Arg Arg Phe Pro Ser
        195                 200                 205

Asn His Thr Glu Arg Phe Glu Arg Leu Ile Lys Asp Asp Met Leu Cys
    210                 215                 220
```

```
Ala Gly Asp Glu Arg His Leu Ser Pro Gln Gly Asp Asn Gly Gly Pro
225                 230                 235                 240

Leu Leu Cys Arg Arg Asn Cys Thr Trp Val Gln Val Glu Val Val Ser
                245                 250                 255

Trp Gly Lys Leu Cys Gly Leu Arg Gly Tyr Pro Gly Met Tyr Thr Arg
            260                 265                 270

Val Thr Ser Tyr Val Ser Trp Ile Arg Gln Tyr Val Pro Pro Phe Pro
        275                 280                 285

Arg Arg
    290
```

<210> 17
<211> 542
<212> DNA
<213> Homo sapiens

<400> 17
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acccctgaca ggcagctgac cctgaatgag atctataact ggttcaccag gatgttcgcc 180
tatttccgca gaaacactgc cacctggaag aacgccgtgc gccacaacct cagcctgcac 240
aagtgcttcg tccgcgtgga gaacgtcaag ggtgccgtgt ggactgtgga cgagcgggag 300
tatcagaagc ggagaccgcc aaagatgaca gggtatgtgg gtccagagct ggatgggctg 360
tacctgccca gggggcagga gccaactcac ccccacccca tacctctcca gggtacacat 420
gtgcaccaga tccttcctgg ctgggggaag gggtgtgggg agaaaggagc agaggagact 480
agtgcttggg gacaggggggc tggaatccgg aagtgatgga taatcagaag gcagacattt 540
at 542

<210> 18
<211> 169
<212> PRT
<213> Homo sapiens

<400> 18
```
Met Tyr Thr Asn Ser Ser Ser Tyr Gln Thr Gly Pro Asn His Glu Phe
  1               5                  10                  15

Tyr Lys Asn Ala Asp Val Arg Pro Pro Phe Thr Tyr Ala Ser Leu Ile
            20                  25                  30

Arg Gln Ala Ile Leu Glu Thr Pro Asp Arg Gln Leu Thr Leu Asn Glu
        35                  40                  45

Ile Tyr Asn Trp Phe Thr Arg Met Phe Ala Tyr Phe Arg Arg Asn Thr
    50                  55                  60

Ala Thr Trp Lys Asn Ala Val Arg His Asn Leu Ser Leu His Lys Cys
65                  70                  75                  80

Phe Val Arg Val Glu Asn Val Lys Gly Ala Val Trp Thr Val Asp Glu
                85                  90                  95
```

```
Arg Glu Tyr Gln Lys Arg Arg Pro Pro Lys Met Thr Gly Tyr Val Gly
            100                 105                 110

Pro Glu Leu Asp Gly Leu Tyr Leu Pro Arg Gly Gln Glu Pro Thr His
        115                 120                 125

Pro His Pro Leu Pro Leu Gln Gly Thr His Val His Gln Ile Leu Pro
    130                 135                 140

Gly Trp Gly Lys Gly Cys Gly Glu Lys Gly Ala Glu Glu Thr Ser Ala
145                 150                 155                 160

Trp Gly Gln Gly Ala Gly Ile Arg Lys
                165
```

<210> 19
<211> 870
<212> DNA
<213> Homo sapiens

<400> 19

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atctggccag agtgggcttg gccagttgtg gtgggcacca ccatgctgct gctgctgctg 60
ttcctggctg tctcctccct ggggagctgt agcactggga gtccagctcc cgtccccgag 120
aatgacctgg tgggcattgt gggggggccac aacacccagg ggaagtggtc gtggcaggtc 180
agcctgagga tctatagcta ccactgggcc tcctgggtgc ccatctgcgg gggctccctc 240
atccaccccc agtgggtgct gaccgccgct cactgcattt tccggaagga caccgacccg 300
tccacctacc ggattcacac cagggatgtg tatctgtacg ggggccgggg gctgctgaat 360
gtcagccaga tcgtcgtcca ccccaactac tctgtcttct tcctgggggc agacatcgcc 420
ctgctgaagc tggccaccag tgtgagaaca acaaacactc tcgcggcagt cgccctgccg 480
tcattgtccc tggagttcac tgacagtgac aactgctgga acacaggctg gggcatggtc 540
ggcttgttgg atatgctgcc gcctccttac cgcccgcagc aggtgaaggt cctcacactg 600
agcaatgcag actgtgagcg gcagacctac gatgcttttc ctggtgctgg agacagaaag 660
ttcatccagg atgacatgat ctgtgccggc cgcacgggcc gccgcacctg gaagggtgac 720
tcaggcggcc ccctggtctg caagaagaag ggtacctggc tccaggcggg agtagtgagc 780
tggggatttt acagtgatcg gcccagcatt ggcgtctaca cgtgggtcca gacctatgtg 840
ccctggatcc tgcagcaaat gcacctctaa                                  870
```

<210> 20
<211> 275
<212> PRT
<213> Homo sapiens

<400> 20

```
Met Leu Leu Leu Leu Leu Phe Leu Ala Val Ser Ser Leu Gly Ser Cys
  1               5                  10                  15

Ser Thr Gly Ser Pro Ala Pro Val Pro Glu Asn Asp Leu Val Gly Ile
             20                  25                  30

Val Gly Gly His Asn Thr Gln Gly Lys Trp Ser Trp Gln Val Ser Leu
         35                  40                  45

Arg Ile Tyr Ser Tyr His Trp Ala Ser Trp Val Pro Ile Cys Gly Gly
     50                  55                  60
```

```
Ser Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala His Cys Ile Phe
 65                  70                  75                  80

Arg Lys Asp Thr Asp Pro Ser Thr Tyr Arg Ile His Thr Arg Asp Val
                 85                  90                  95

Tyr Leu Tyr Gly Gly Arg Gly Leu Leu Asn Val Ser Gln Ile Val Val
            100                 105                 110

His Pro Asn Tyr Ser Val Phe Phe Leu Gly Ala Asp Ile Ala Leu Leu
        115                 120                 125

Lys Leu Ala Thr Ser Val Arg Thr Thr Asn Thr Leu Ala Ala Val Ala
    130                 135                 140

Leu Pro Ser Leu Ser Leu Glu Phe Thr Asp Ser Asp Asn Cys Trp Asn
145                 150                 155                 160

Thr Gly Trp Gly Met Val Gly Leu Leu Asp Met Leu Pro Pro Pro Tyr
                165                 170                 175

Arg Pro Gln Gln Val Lys Val Leu Thr Leu Ser Asn Ala Asp Cys Glu
            180                 185                 190

Arg Gln Thr Tyr Asp Ala Phe Pro Gly Ala Gly Asp Arg Lys Phe Ile
        195                 200                 205

Gln Asp Asp Met Ile Cys Ala Gly Arg Thr Gly Arg Arg Thr Trp Lys
    210                 215                 220

Gly Asp Ser Gly Gly Pro Leu Val Cys Lys Lys Lys Gly Thr Trp Leu
225                 230                 235                 240

Gln Ala Gly Val Val Ser Trp Gly Phe Tyr Ser Asp Arg Pro Ser Ile
                245                 250                 255

Gly Val Tyr Thr Trp Val Gln Thr Tyr Val Pro Trp Ile Leu Gln Gln
            260                 265                 270

Met His Leu
        275
```

<210> 21
<211> 858
<212> DNA
<213> Homo sapiens

<400> 21
atgctgtggc tactgctcct gaccctcccc tgcctgatgg gctctgtgcc caggaaccca 60
ggcgagggca cggggcgtga gctggtgggc atcactgggg gctgcgacgt ctcggccagg 120
aggcacccct ggcaggtcag cctgaggttc tacagcatga agaagggtct gtgggagccc 180
atctgtgggg gctccctcat ccacccagag tgggtgctga ccgccgccca ctgccttttg 240
gaggagttgg aggcttgcgc gtttagagtg caggtggggc agctgaggct ctatgaggac 300
gaccagcgga cgaaggtggt tgagatcgtc cgtcaccccc agtacaacga gagcctgtct 360
gcccagggcg gtgcggacat cgccctgctg aagctggagg ccccggtgcc gctgtctgag 420

```
ctcatccacc cggtctcgct cccgtctgcc tccctggacg tgccctcggg gaagacctgc 480
tgggtgaccg gctggggtgt cattggacgt ggagaactac tgccctggcc cctcagcttg 540
tgggaggcga cggtgaaggt caggagcaac gtcctctgta accagacctg tcgccgccgc 600
tttccttcca accacactga gcggtttgag cggctcatca aggacgacat gctgtgtgcc 660
ggggacggga accacggctc ctggccaggc gacaacgggg gccccctcct gtgcaggcgg 720
aattgcacct gggtccaggt ggaggtggtg agctggggca aactctgcgg ccttcgcggc 780
tatcccggca tgtacacccg cgtgacgagc tacgtgtcct ggatccgcca gtacgtcccg 840
ccgttcccca gacgctag                                              858
```

<210> 22
<211> 285
<212> PRT
<213> Homo sapiens

<400> 22

```
Met Leu Trp Leu Leu Leu Leu Thr Leu Pro Cys Leu Met Gly Ser Val
  1               5                  10                  15

Pro Arg Asn Pro Gly Glu Gly Thr Gly Arg Glu Leu Val Gly Ile Thr
             20                  25                  30

Gly Gly Cys Asp Val Ser Ala Arg Arg His Pro Trp Gln Val Ser Leu
         35                  40                  45

Arg Phe Tyr Ser Met Lys Lys Gly Leu Trp Glu Pro Ile Cys Gly Gly
     50                  55                  60

Ser Leu Ile His Pro Glu Trp Val Leu Thr Ala Ala His Cys Leu Leu
 65                  70                  75                  80

Glu Glu Leu Glu Ala Cys Ala Phe Arg Val Gln Val Gly Gln Leu Arg
                 85                  90                  95

Leu Tyr Glu Asp Asp Gln Arg Thr Lys Val Val Glu Ile Val Arg His
            100                 105                 110

Pro Gln Tyr Asn Glu Ser Leu Ser Ala Gln Gly Gly Ala Asp Ile Ala
        115                 120                 125

Leu Leu Lys Leu Glu Ala Pro Val Pro Leu Ser Glu Leu Ile His Pro
    130                 135                 140

Val Ser Leu Pro Ser Ala Ser Leu Asp Val Pro Ser Gly Lys Thr Cys
145                 150                 155                 160

Trp Val Thr Gly Trp Gly Val Ile Gly Arg Gly Glu Leu Leu Pro Trp
                165                 170                 175

Pro Leu Ser Leu Trp Glu Ala Thr Val Lys Val Arg Ser Asn Val Leu
            180                 185                 190

Cys Asn Gln Thr Cys Arg Arg Arg Phe Pro Ser Asn His Thr Glu Arg
        195                 200                 205

Phe Glu Arg Leu Ile Lys Asp Asp Met Leu Cys Ala Gly Asp Gly Asn
    210                 215                 220
```

```
His Gly Ser Trp Pro Gly Asp Asn Gly Gly Pro Leu Leu Cys Arg Arg
225                 230                 235                 240

Asn Cys Thr Trp Val Gln Val Glu Val Val Ser Trp Gly Lys Leu Cys
                245                 250                 255

Gly Leu Arg Gly Tyr Pro Gly Met Tyr Thr Arg Val Thr Ser Tyr Val
            260                 265                 270

Ser Trp Ile Arg Gln Tyr Val Pro Pro Phe Pro Arg Arg
        275                 280                 285
```

<210> 23
<211> 660
<212> DNA
<213> Homo sapiens

<400> 23
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tgcgcgttta gagtgcaggt ggggcagctg aggctctatg aggacgacca gcggacgaag 120
gtggttgaga tcgtccgtca cccccagtac aacgagagcc tgtctgccca gggcggtgcg 180
gacatcgccc tgctgaagct ggaggccccg gtgccgctgt ctgagctcat ccacccggtc 240
tcgctcccgt ctgcctcccg ggacgtgccc tcggggaaga cctgctgggt gaccggctgg 300
ggtgtcattg gacgtggaga actactgccc tggcccctca gcttgtggga ggcgacggtg 360
aaggtcagga gcaacgtcct ctgtaaccag acctgtcgcc gccgctttcc ttccaaccac 420
actgagcggt ttgagcggct catcaaggac gacatgctgt gtgccgggga cgggaaccac 480
ggctcctggc caggcgacaa cgggggcccc ctcctgtgca ggcggaattg cacctgggtc 540
caggtggagg tggtgagctg gggcaaactc tgcggccttc gcggctatcc cggcatgtac 600
acccgcgtga cgagctacgt gtcctggatc cgccagtacg tcccgccgtt ccccagacgc 660

<210> 24
<211> 220
<212> PRT
<213> Homo sapiens

<400> 24
```
Ser Leu Gly Ala Ala Thr Ser Arg Pro Gly Gly Thr Pro Gly Arg Glu
  1               5                  10                  15

Glu Leu Glu Ala Cys Ala Phe Arg Val Gln Val Gly Gln Leu Arg Leu
            20                  25                  30

Tyr Glu Asp Asp Gln Arg Thr Lys Val Val Glu Ile Val Arg His Pro
         35                  40                  45

Gln Tyr Asn Glu Ser Leu Ser Ala Gln Gly Gly Ala Asp Ile Ala Leu
     50                  55                  60

Leu Lys Leu Glu Ala Pro Val Pro Leu Ser Glu Leu Ile His Pro Val
 65                  70                  75                  80

Ser Leu Pro Ser Ala Ser Arg Asp Val Pro Ser Gly Lys Thr Cys Trp
                85                  90                  95
```

```
Val Thr Gly Trp Gly Val Ile Gly Arg Gly Glu Leu Leu Pro Trp Pro
            100                 105                 110

Leu Ser Leu Trp Glu Ala Thr Val Lys Val Arg Ser Asn Val Leu Cys
        115                 120                 125

Asn Gln Thr Cys Arg Arg Arg Phe Pro Ser Asn His Thr Glu Arg Phe
    130                 135                 140

Glu Arg Leu Ile Lys Asp Asp Met Leu Cys Ala Gly Asp Gly Asn His
145                 150                 155                 160

Gly Ser Trp Pro Gly Asp Asn Gly Gly Pro Leu Leu Cys Arg Arg Asn
                165                 170                 175

Cys Thr Trp Val Gln Val Glu Val Val Ser Trp Gly Lys Leu Cys Gly
            180                 185                 190

Leu Arg Gly Tyr Pro Gly Met Tyr Thr Arg Val Thr Ser Tyr Val Ser
        195                 200                 205

Trp Ile Arg Gln Tyr Val Pro Pro Phe Pro Arg Arg
    210                 215                 220
```

<210> 25
<211> 843
<212> DNA
<213> Homo sapiens

<400> 25
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tgagagataa atgggctccc agagatgcca gggaggaggc cccggcacgg ggcgtgagct 60
ggtgggcatc actgggggct gcgacgtctc ggccaggagg cacccctggc aggtcagcct 120
gaggttctac agcatgaaga agggtctgtg ggagcccatc tgtgggggct ccctcatcca 180
cccagagtgg gtgctgaccg ccgcccactg ccttggcagg gaggagttgg aggcttgcgc 240
gtttagagtg caggtggggc agctgaggct ctatgaggac gaccagcgga cgaaggtggt 300
tgagatcgtc cgtcaccccc agtacaacga gagcctgtct gcccagggcg gtgcggacat 360
cgccctgctg aagctggagg ccccggtgcc gctgtctgag ctcatccacc cggtctcgct 420
cccgtctgcc tcccggcctg ggctccagac gcgtcctgga tggcttcctg ccgctgccga 480
gacggatggg caggaactac tgccctggcc cctcagcttg tgggaggcga cggtgaaggt 540
caggagcaac gtcctctgta accagacctg tcgccgccgc tttccttcca accacactga 600
gcggtttgag cggctcatca aggacgacat gctgtgtgcc ggggacggga accacggctc 660
ctggccaggc gacaacgggg gccccctcct gtgcaggcgg aattgcacct gggtccaggt 720
ggaggtggtg agctggggca aactctgcgg ccttcgcggc tatcccggca tgtacacccg 780
cgtgacgagc tacgtgtcct ggatccgcca gtacgtcccg ccgttcccca gacgctagct 840
ggg                                                             843
```

<210> 26
<211> 275
<212> PRT
<213> Homo sapiens

<400> 26
```
Met Gly Ser Gln Arg Cys Gln Gly Gly Gly Pro Gly Thr Gly Arg Glu
  1               5                  10                  15
```

```
Leu Val Gly Ile Thr Gly Gly Cys Asp Val Ser Ala Arg Arg His Pro
            20                  25                  30

Trp Gln Val Ser Leu Arg Phe Tyr Ser Met Lys Lys Gly Leu Trp Glu
        35                  40                  45

Pro Ile Cys Gly Gly Ser Leu Ile His Pro Glu Trp Val Leu Thr Ala
    50                  55                  60

Ala His Cys Leu Gly Arg Glu Glu Leu Glu Ala Cys Ala Phe Arg Val
65                  70                  75                  80

Gln Val Gly Gln Leu Arg Leu Tyr Glu Asp Asp Gln Arg Thr Lys Val
                85                  90                  95

Val Glu Ile Val Arg His Pro Gln Tyr Asn Glu Ser Leu Ser Ala Gln
            100                 105                 110

Gly Gly Ala Asp Ile Ala Leu Leu Lys Leu Glu Ala Pro Val Pro Leu
        115                 120                 125

Ser Glu Leu Ile His Pro Val Ser Leu Pro Ser Ala Ser Arg Pro Gly
    130                 135                 140

Leu Gln Thr Arg Pro Gly Trp Leu Pro Ala Ala Ala Glu Thr Asp Gly
145                 150                 155                 160

Gln Glu Leu Leu Pro Trp Pro Leu Ser Leu Trp Glu Ala Thr Val Lys
                165                 170                 175

Val Arg Ser Asn Val Leu Cys Asn Gln Thr Cys Arg Arg Arg Phe Pro
            180                 185                 190

Ser Asn His Thr Glu Arg Phe Glu Arg Leu Ile Lys Asp Asp Met Leu
        195                 200                 205

Cys Ala Gly Asp Gly Asn His Gly Ser Trp Pro Gly Asp Asn Gly Gly
    210                 215                 220

Pro Leu Leu Cys Arg Arg Asn Cys Thr Trp Val Gln Val Glu Val Val
225                 230                 235                 240

Ser Trp Gly Lys Leu Cys Gly Leu Arg Gly Tyr Pro Gly Met Tyr Thr
                245                 250                 255

Arg Val Thr Ser Tyr Val Ser Trp Ile Arg Gln Tyr Val Pro Pro Phe
            260                 265                 270

Pro Arg Arg
        275
```

<210> 27
<211> 94
<212> PRT
<213> Homo sapiens

<400> 27
Met Ser Glu Leu Val Arg Ala Arg Ser Gln Ser Ser Glu Arg Gly Asn
1 5 10 15

Asp Gln Glu Ser Ser Gln Pro Val Gly Ser Val Ile Val Gln Glu Pro
20 25 30

Thr Glu Glu Lys Arg Gln Glu Glu Glu Pro Pro Thr Asp Asn Gln Gly
35 40 45

Pro Asp Met Glu Ala Phe Gln Gln Glu Leu Ala Leu Leu Lys Ile Glu
50 55 60

Asp Glu Pro Gly Asp Gly Pro Asp Val Arg Glu Gly Ile Met Pro Thr
65 70 75 80

Phe Asp Leu Thr Lys Val Leu Glu Ala Gly Asp Ala Gln Pro
85 90

<210> 28
<211> 109
<212> PRT
<213> Homo sapiens

<400> 28
Met Ser Glu Leu Val Arg Ala Arg Ser Gln Ser Ser Glu Arg Gly Asn
1 5 10 15

Asp Gln Glu Ser Ser Gln Pro Val Gly Ser Val Ile Val Gln Glu Pro
20 25 30

Thr Glu Glu Lys Arg Gln Gln Glu Glu Pro Pro Thr Asp Asn Gln Asp
35 40 45

Ile Glu Pro Gly Gln Glu Arg Glu Gly Thr Pro Pro Ile Glu Glu Arg
50 55 60

Lys Val Glu Gly Asp Cys Gln Glu Met Ala Leu Leu Lys Ile Glu Asp
65 70 75 80

Glu Pro Gly Asp Gly Pro Asp Val Arg Glu Gly Ile Met Pro Thr Phe
85 90 95

Asp Leu Thr Lys Val Leu Glu Ala Gly Asp Ala Gln Pro
100 105

<210> 29
<211> 95
<212> DNA
<213> Homo sapiens

<400> 29
gtgggaaata tgagtgagca tgtgagaaca agatcccaat cctcagaaag aggaaatgac 60
caagagtctt cccagccagt tggatctgtg attgt 95

<210> 30
<211> 95
<212> DNA
<213> Homo sapiens

<400> 30
gtgggaaata tgagtgagca tgtaagaaca agatcccaat cctcagaaag aggaaatgac 60
taagagtctt cccagccagt tgtatctgtg attgt 95

<210> 31
<211> 110
<212> DNA
<213> Homo sapiens

<400> 31
gtccaggagc ccactgagga aaaacgtcaa gaagaggaac caccaactga taatcagggt 60
attgcaccta gtggggagat cgaaaatgaa ggagcacctg ccgttcaagg 110

<210> 32
<211> 110
<212> DNA
<213> Homo sapiens

<400> 32
gtccagcagc ccactgagga aaaacgtcaa gaagaggagc caccaactga aaatcagggt 60
attgcaccta ctggggagat cgaaaatgaa gcggcacctg cccttcaagg 110

<210> 33
<211> 119
<212> DNA
<213> Homo sapiens

<400> 33
tggaagcttt tcaacaggaa ctggctctgc ttaagataga ggatgagcct ggagatggtc 60
ctgatgtcag ggaggggatt atgcccactt ttgatctcac taaagtgctg gaagcaggt 119

<210> 34
<211> 119
<212> DNA
<213> Homo sapiens

<400> 34
tggaagcttt tcaacaggaa ctggctctgc ttaagataga ggatgcacct ggagatggtc 60
ctgatgtcag ggaggggact ctgcccactt tcgatcccac taaagtgctg gaagcaggt 119

<210> 35
<211> 121
<212> DNA
<213> Homo sapiens

<400> 35

aggtgatgcg caaccatagg tttcaagcaa gacaaatgaa gactgaaacc aagaacgtta 60
ttcttaatct ggaaatttga ctgataatat tctcttaata aagttttaag ttttctgcaa 120
a 121

<210> 36
<211> 122
<212> DNA
<213> Homo sapiens

<400> 36
aggtaatggg caaccatagg tttaaaccaa gacaaatgaa gactgaaacc aagaatgttg 60
ttcttatgct ggaaatttga ctgctaacat tctcttaata aagttttaca gttttctgca 120
aa 122

<210> 37
<211> 111
<212> PRT
<213> Homo sapiens

<400> 37
Met Ser Glu His Val Arg Thr Arg Ser Gln Ser Ser Glu Arg Gly Asn
1 5 10 15

Asp Gln Glu Ser Ser Gln Pro Val Gly Ser Val Ile Val Gln Glu Pro
20 25 30

Thr Glu Glu Lys Arg Gln Glu Glu Glu Pro Pro Thr Asp Asn Gln Gly
35 40 45

Ile Ala Pro Ser Gly Glu Ile Glu Asn Glu Gly Ala Pro Ala Val Gln
50 55 60

Gly Pro Asp Met Glu Ala Phe Gln Gln Glu Leu Ala Leu Leu Lys Ile
65 70 75 80

Glu Asp Glu Pro Gly Asp Gly Pro Asp Val Arg Glu Gly Ile Met Pro
85 90 95

Thr Phe Asp Leu Thr Lys Val Leu Glu Ala Gly Asp Ala Gln Pro
100 105 110

<210> 38
<211> 109
<212> PRT
<213> Homo sapiens

<400> 38
Met Ser Glu Leu Val Arg Ala Arg Ser Gln Ser Ser Glu Arg Gly Asn
1 5 10 15

Asp Gln Glu Ser Ser Gln Pro Val Gly Ser Val Ile Val Gln Glu Pro
20 25 30

Thr Glu Glu Lys Arg Gln Gln Glu Glu Pro Pro Thr Asp Asn Gln Asp

```
         35                  40                  45

Ile Glu Pro Gly Gln Glu Arg Glu Gly Thr Pro Pro Ile Glu Glu Arg
     50                  55                  60

Lys Val Glu Gly Asp Cys Gln Glu Met Ala Leu Leu Lys Ile Glu Asp
 65                  70                  75                  80

Glu Pro Gly Asp Gly Pro Asp Val Arg Glu Gly Ile Met Pro Thr Phe
                 85                  90                  95

Asp Leu Thr Lys Val Leu Glu Ala Gly Asp Ala Gln Pro
            100                 105


<210> 39
<211> 46
<212> PRT
<213> Homo sapiens

<400> 39
Asn Gln Gly Ile Ala Pro Ser Gly Glu Ile Glu Asn Glu Gly Ala Pro
  1               5                  10                  15

Ala Val Gln Gly Pro Asp Met Glu Ala Phe Gln Gln Glu Leu Ala Leu
             20                  25                  30

Leu Lys Ile Glu Asp Glu Pro Gly Asp Gly Pro Asp Val Arg
         35                  40                  45


<210> 40
<211> 46
<212> PRT
<213> Homo sapiens

<400> 40
Ser Gln Asp Ser Thr Pro Ala Glu Glu Arg Glu Asp Glu Gly Ala Ser
  1               5                  10                  15

Ala Ala Gln Gly Gln Glu Pro Glu Ala Asp Ser Gln Glu Leu Val Gln
             20                  25                  30

Pro Lys Thr Gly Cys Glu Pro Gly Asp Gly Pro Asp Thr Lys
         35                  40                  45


<210> 41
<211> 436
<212> DNA
<213> Homo sapiens

<400> 41
atcagagtgg gacaaaagca gtagtcattt cagtttcaat tctctgcccg ttttttccta 60
aatgtcttca tgatggagag tctaattgtg aaaccaaaac gcagaaatgt cctctgtctt 120
ttgctatggc gttaagggga tttctatgcc tcttcgacta tgatacaaac aaatctgtcc 180
ttagtttgat tcgaaagcat gtgtacttat cattgctctg tgacttaatt tgaaaatatt 240
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ttcaaaatta aaaaagtaca aatcaccatt ttgccgtgga atgttcatat atataactaa 300
gttcttacac actttttcca aataacaata ttctgtttgc agtgggaaat atgagtgagc 360
ttgtaagagc aagatcccaa tcctcagaaa gaggaaatga ccaagagtct tcccagccgg 420
ttggatctgt gattgt 436

<210> 42
<211> 434
<212> DNA
<213> Homo sapiens

<400> 42
atcagagtgg gaggaaagca gcagtcactt cagtttcaat tttctgcccg ttttttttcct 60
aaatgtgtaa atgatggaga gtctaattgt gaagccaaaa ctcagaaaag tcctctgtct 120
tttgctatgg cgttaaggtg ttttctgtgc ctcttcgact atgatacaaa caaatctgtc 180
cttagtttga ttggaaagca tgcgtactta tcaatgctct gtgacttagt ttgaaaatat 240
tttcaaaatt aaaaaagtac aaatcaccat tttgccatgg aatgttcata tatatagcta 300
agttcttaca cacttttttcc aaataacaat attttgtttt cagtgagaga tatgagtgag 360
catgtaacaa gatcccaatc ctcagaaaga ggaaatgacc aagagtcttc ccagccagtt 420
ggacctgtga ttgt 434

<210> 43
<211> 448
<212> DNA
<213> Homo sapiens

<400> 43
gtgggaaata tgagtgagct tgtaagagca agatcccaat cctcagaaag aggaaatgac 60
caagagtctt cccagccggt tggatctgtg attgtccagg agcccactga ggaaaaacgt 120
caagaagagg aaccaccaac tgataatcag ggtattgcac ctagtgggga gattgaaaat 180
caagcagtgc ctgcttttca agggcctgac atggaagctt ttcaacagga actggctctg 240
cttaagatag aggatgagcc tggagatggt cctgatgtca gggagggtat tatgcccact 300
tttgatctca ctaaagtgct ggaagcaggt gatgcgcaac cataggtttc aagcaagaca 360
aatgaagact gaaaccaaga acgttattct taatctggaa atttgactga taatattctc 420
ttaataaagt tttaagtttt ctgcaaag 448

<210> 44
<211> 448
<212> DNA
<213> Homo sapiens

<400> 44
gtgggaaata tgagtgagca tgtgagaaca agatcccaat cctcagaaag aggaaatgac 60
caagagtctt cccagccagt tggatctgtg attgtccagg agcccactga ggaaaaacgt 120
caagaagagg aaccaccaac tgataatcag ggtattgcac ctagtgggga gatcgaaaat 180
gaaggagcac ctgccgttca agggcctgac atggaagctt ttcaacagga actggctctg 240
cttaagatag aggatgagcc tggagatggt cctgatgtca gggaggggat tatgcccact 300
tttgatctca ctaaagtgct ggaagcaggt gatgcgcaac cataggtttc aagcaagaca 360
aatgaagact gaaaccaaga acgttattct taatctggaa atttgactga taatattctc 420
ttaataaagt tttaagtttt ctgcaaag 448

<210> 45
<211> 106
<212> PRT

<213> Homo sapiens

<220>
<221> VARIANT
<222> (25)
<223> Wherein Xaa is any amino acid as defined in the specification

<220>
<221> VARIANT
<222> (26)
<223> Wherein Xaa is any amino acid as defined in the specification

<220>
<221> VARIANT
<222> (27)
<223> Wherein Xaa is any amino acid as defined in the specification

<220>
<221> VARIANT
<222> (28)
<223> Wherein Xaa is any amino acid as defined in the specification

<220>
<221> VARIANT
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<223> Wherein Xaa is any amino acid as defined in the specification

<220>
<221> VARIANT
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<223> Wherein Xaa is any amino acid as defined in the specification

<220>
<221> VARIANT
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<223> Wherein Xaa is any amino acid as defined in the specification

<220>
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<222> (32)
<223> Wherein Xaa is any amino acid as defined in the specification

<220>
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<222> (33)
<223> Wherein Xaa is any amino acid as defined in the specification

<220>

<221> VARIANT
<222> (34)
<223> Wherein Xaa is any amino acid as defined in the specification

<220>
<221> VARIANT
<222> (35)
<223> Wherein Xaa is any amino acid as defined in the specification

<220>
<221> VARIANT
<222> (36)
<223> Wherein Xaa is any amino acid as defined in the specification

<220>
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<223> Wherein Xaa is any amino acid as defined in the specification

<220>
<221> VARIANT
<222> (38)
<223> Wherein Xaa is any amino acid as defined in the specification

<220>
<221> VARIANT
<222> (39)
<223> Wherein Xaa is any amino acid as defined in the specification

<400> 45

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Arg Ala Arg Ser Gln Ser Ser Glu Arg Gly Asn Asp Gln Glu Ser Ser
  1               5                  10                  15

Gln Pro Val Gly Ser Val Ile Val Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
             20                  25                  30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Asp Asn Gln Gly Ile Ala Pro Ser Gly
         35                  40                  45

Glu Ile Glu Asn Gln Ala Val Pro Ala Phe Gln Gly Pro Asp Met Glu
     50                  55                  60

Ala Phe Gln Gln Glu Leu Ala Leu Leu Lys Ile Glu Asp Glu Pro Gly
 65                  70                  75                  80

Asp Gly Pro Asp Val Arg Glu Gly Ile Met Pro Thr Phe Asp Leu Thr
                 85                  90                  95

Lys Val Leu Glu Ala Gly Asp Ala Gln Pro
            100                 105
```

<210> 46
<211> 99
<212> PRT
<213> Homo sapiens

<400> 46
Arg Val Arg Ser Arg Ser Arg Gly Arg Gly Asp Gly Gln Glu Ala Pro
1 5 10 15

Asp Val Val Ala Phe Val Ala Pro Gly Glu Ser Gln Gln Glu Glu Pro
20 25 30

Pro Thr Asp Asn Gln Asp Ile Glu Pro Gly Gln Glu Arg Glu Gly Thr
35 40 45

Pro Pro Ile Glu Glu Arg Lys Val Glu Gly Asp Cys Gln Glu Met Asp
50 55 60

Leu Glu Lys Thr Arg Ser Glu Arg Gly Asp Gly Ser Asp Val Lys Glu
65 70 75 80

Lys Thr Pro Pro Asn Pro Lys His Ala Lys Thr Lys Glu Ala Gly Asp
85 90 95

Gly Gln Pro

<210> 47
<211> 49
<212> DNA
<213> Homo sapiens

<400> 47
gtgaaatatg agttggcgag gaagatcaac atataggcct aggccaaga 49

<210> 48
<211> 49
<212> DNA
<213> Homo sapiens

<400> 48
gtgaaatatg agttggcgag gaagatcgac ctatcggcct agaccaaga 49

<210> 49
<211> 103
<212> PRT
<213> Homo sapiens

<400> 49
Met Ser Trp Arg Gly Arg Ser Thr Tyr Arg Pro Arg Pro Arg Arg Ser
1 5 10 15

Leu Gln Pro Pro Glu Leu Ile Gly Ala Met Leu Glu Pro Thr Asp Glu

```
            20                  25                  30

Glu Pro Lys Glu Glu Lys Pro Pro Thr Lys Ser Arg Asn Pro Asp Asp
         35                  40                  45

Gln Gly Ala Ala Glu Ile Gln Val Pro Asp Leu Glu Ala Asp Leu Gln
     50                  55                  60

Glu Leu Cys Gln Thr Lys Thr Gly Asp Gly Cys Glu Gly Gly Thr Asp
 65                  70                  75                  80

Val Lys Gly Lys Ile Leu Pro Lys Ala Glu His Phe Lys Met Pro Glu
                 85                  90                  95

Ala Gly Glu Gly Lys Ser Gln
            100
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<210> 50
<211> 109
<212> PRT
<213> Homo sapiens

<400> 50

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Met Ser Trp Arg Gly Arg Ser Thr Tyr Arg Pro Arg Pro Arg Arg Tyr
  1               5                  10                  15

Val Glu Pro Pro Glu Met Ile Gly Pro Met Arg Pro Glu Gln Phe Ser
            20                  25                  30

Asp Glu Val Glu Pro Ala Thr Pro Glu Glu Gly Glu Pro Ala Thr Gln
         35                  40                  45

Arg Gln Asp Pro Glu Asp Glu Gly Ala Ser Ala Gly Gln Gly Pro Lys
     50                  55                  60

Pro Glu Ala Glu Ser Gln Glu Gln Gly His Pro Gln Thr Gly Cys Glu
 65                  70                  75                  80

Cys Glu Asp Gly Pro Asp Gly Gln Glu Met Asp Pro Pro Asn Pro Glu
                 85                  90                  95

Glu Val Lys Thr Pro Glu Glu Gly Glu Lys Gln Ser Gln
            100                 105
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<210> 51
<211> 388
<212> DNA
<213> Homo sapiens

<400> 51

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tgagcaccaa acctgatatg attcaaaagt gtttgtggct tgagatcctt atgggtatat 60
tcattgctgg caccctatcc ctggactgta acttactgaa cgttcacctg agaagagtca 120
cctggcaaaa tctgagacat ctgagtagta tgagcaattc atttcctgta gaatgtctac 180
gagaaaacat agcttttgag ttgccccaag agtttctgca atacacccaa cctatgaaga 240
gggacatcaa gaaggccttc tatgaaatgt ccctacaggc cttcaacatc ttcagccaac 300
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acaccttcaa atattggaaa gagagacacc tcaaacaaat ccaaatagga cttgatcagc 360
aagcagagta cctgaaccaa tgcttgga 388

<210> 52
<211> 388
<212> DNA
<213> Homo sapiens

<400> 52
tgagcaccaa acctgatatg attcaaaagt gtttgtggct tgagatcctt atgggtatat 60
tcattgctgg cáccctatcc ctggactgta acttactgaa cgttcacctg agaagagtca 120
cctggcaaaa tctgagacat ctgagtagta tgagcaattc atttcctgta gaatgtctac 180
gagaaaacat agcttttgag ttgccccaag agtttctgca atacacccaa cctatgaaga 240
gggacatcaa gaaggccttc tatgaaatgt ccctacaggc cttcaacatc ttcagccaac 300
acaccttcaa atattggaaa gagagacacc tcaaacaaat ccaaatagga cttgatcagc 360
aagcagagta cctgaaccaa tgcttgga 388

<210> 53
<211> 181
<212> DNA
<213> Homo sapiens

<400> 53
ccctcagaag ccagggtccc ccagctgagc agcctggaac tgaggagata tttccacagg 60
atagacaatt tcctgaaaga aaagaaatac agtgactgtg cctgggagat tgtccgagtg 120
gaaatcagaa gatgtttgta ttacttttac aaatttacag ctctattcag gaggaaataa 180
g 181

<210> 54
<211> 181
<212> DNA
<213> Homo sapiens

<400> 54
ccctcagaag ccagggtccc ccagctgagc agcctggaac tgaggagata tttccacagg 60
atagacaatt tcctgaaaga aaagaaatac agtgactgtg cctgggagat tgtccgagtg 120
gaaatcagaa gatgtttgta ttacttttac aaatttacag ctctattcag gaggaaataa 180
g 181

<210> 55
<211> 207
<212> PRT
<213> Homo sapiens

<400> 55
Met Ser Thr Lys Pro Asp Met Ile Gln Lys Cys Leu Trp Leu Glu Ile
1 5 10 15

Leu Met Gly Ile Phe Ile Ala Gly Thr Leu Ser Leu Asp Cys Asn Leu
20 25 30

Leu Asn Val His Leu Arg Arg Val Thr Trp Gln Asn Leu Arg His Leu
35 40 45

```
Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys Leu Arg Glu Asn Ile
     50                  55                  60

Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Tyr Thr Gln Pro Met Lys
 65                  70                  75                  80

Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser Leu Gln Ala Phe Asn
                 85                  90                  95

Ile Phe Ser Gln His Thr Phe Lys Tyr Trp Lys Glu Arg His Leu Lys
            100                 105                 110

Gln Ile Gln Ile Gly Leu Asp Gln Gln Ala Glu Tyr Leu Asn Gln Cys
        115                 120                 125

Leu Glu Glu Asp Lys Asn Glu Asn Glu Asp Met Lys Glu Met Lys Glu
    130                 135                 140

Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro Gln Leu Ser Ser Leu
145                 150                 155                 160

Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn Phe Leu Lys Glu Lys
                165                 170                 175

Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg Val Glu Ile Arg Arg
            180                 185                 190

Cys Leu Tyr Tyr Phe Tyr Lys Phe Thr Ala Leu Phe Arg Arg Lys
        195                 200                 205


<210> 56
<211> 207
<212> PRT
<213> Homo sapiens

<400> 56
Met Ser Thr Lys Pro Asp Met Ile Gln Lys Cys Leu Trp Leu Glu Ile
  1               5                  10                  15

Leu Met Gly Ile Phe Ile Ala Gly Thr Leu Ser Leu Asp Cys Asn Leu
             20                  25                  30

Leu Asn Val His Leu Arg Arg Val Thr Trp Gln Asn Leu Arg His Leu
         35                  40                  45

Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys Leu Arg Glu Asn Ile
     50                  55                  60

Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Tyr Thr Gln Pro Met Lys
 65                  70                  75                  80

Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser Leu Gln Ala Phe Asn
                 85                  90                  95

Ile Phe Ser Gln His Thr Phe Lys Tyr Trp Lys Glu Arg His Leu Lys
```

```
            100                 105                 110

Gln Ile Gln Ile Gly Leu Asp Gln Gln Ala Glu Tyr Leu Asn Gln Cys
        115                 120                 125

Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met Lys Glu Met Lys Glu
    130                 135                 140

Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro Gln Leu Ser Ser Leu
145                 150                 155                 160

Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn Phe Leu Lys Glu Lys
                165                 170                 175

Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg Val Glu Ile Arg Arg
            180                 185                 190

Cys Leu Tyr Tyr Phe Tyr Lys Phe Thr Ala Leu Phe Arg Arg Lys
        195                 200                 205


<210> 57
<211> 181
<212> PRT
<213> Homo sapiens

<400> 57
Leu Glu Ile Leu Met Gly Ile Phe Ile Ala Gly Thr Leu Ser Leu Asp
  1               5                  10                  15

Cys Asn Leu Leu Asn Val His Leu Arg Arg Val Thr Trp Gln Asn Leu
             20                  25                  30

Arg His Leu Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys Leu Arg
         35                  40                  45

Glu Asn Ile Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Tyr Thr Gln
     50                  55                  60

Pro Met Lys Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser Leu Gln
 65                  70                  75                  80

Ala Phe Asn Ile Phe Ser Gln His Thr Phe Lys Tyr Trp Lys Glu Arg
                 85                  90                  95

His Leu Lys Gln Ile Gln Ile Gly Leu Asp Gln Gln Ala Glu Tyr Leu
            100                 105                 110

Asn Gln Cys Leu Glu Glu Asp Lys Asn Glu Asn Glu Asp Met Lys Glu
        115                 120                 125

Met Lys Glu Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro Gln Leu
    130                 135                 140

Ser Ser Leu Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn Phe Leu
145                 150                 155                 160
```

```
Lys Glu Lys Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg Val Glu
                165                 170                 175

Ile Arg Arg Cys Leu
            180


<210> 58
<211> 171
<212> PRT
<213> Homo sapiens

<400> 58
Leu Ser Leu Leu Met Ala Leu Val Leu Val Ser Tyr Gly Pro Gly Arg
  1               5                  10                  15

Ser Leu Gly Cys Tyr Leu Ser Glu Asp His Met Leu Gly Ala Arg Glu
            20                  25                  30

Asn Leu Arg Leu Leu Ala Arg Met Asn Arg Leu Ser Pro His Pro Cys
         35                  40                  45

Leu Gln Asp Arg Lys Asp Phe Gly Leu Pro Gln Glu Met Val Glu Gly
     50                  55                  60

Asn Gln Leu Gln Lys Asp Gln Ala Ile Ser Val Leu His Glu Met Leu
 65                  70                  75                  80

Gln Gln Cys Phe Asn Leu Phe Tyr Thr Glu His Ser Ser Ala Ala Trp
                85                  90                  95

Asn Thr Thr Leu Leu Glu Gln Leu Cys Thr Gly Leu Gln Gln Gln Leu
            100                 105                 110

Glu Asp Leu Asp Ala Cys Leu Gly Pro Val Met Gly Glu Lys Asp Ser
        115                 120                 125

Asp Met Gly Arg Met Gly Pro Ile Leu Thr Val Lys Lys Tyr Phe Gln
    130                 135                 140

Gly Ile His Val Tyr Leu Lys Glu Lys Glu Tyr Ser Asp Cys Ala Trp
145                 150                 155                 160

Glu Ile Ile Arg Val Glu Met Met Arg Ala Leu
                165                 170


<210> 59
<211> 390
<212> DNA
<213> Homo sapiens

<400> 59
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ttcattgctg gcaccctatc cctggactgt aacttactga acgttcacct gagaagagtc 120
acctggcaaa atctgagaca tctgagtagt atgagcaatt catttcctgt agaatgtcta 180
cgagaaaaca tagcttttga gttgccccaa gagtttctgc aatacaccca acctatgaag 240
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agggacatca agaaggcctt ctatgaaatg tccctacagg ccttcaacat cttcagccaa 300
cacaccttca aatattggaa agagagacac ctcaaacaaa tccaaatagg acttgatcag 360
caagcagagt acctgaacca atgcttggag 390

<210> 60
<211> 390
<212> DNA
<213> Homo sapiens

<400> 60
atgagcacca aacctgatat gattcaaaag tgtttgtggc ttgagatcct tatgggtata 60
ttcattgctg gcaccctatc cctggactgt aacttactga acgttcacct gagaagagtc 120
acctggcaaa atctgagaca tctgagtagt atgagcaatt catttcctgt agaatgtcta 180
cgagaaaaca tagcttttga gttgccccaa gagtttctgc aatacaccca acctatgaag 240
agggacatca agaaggcctt ctatgaaatg tccctacagg ccttcaacat cttcagccaa 300
cacaccttca aatattggaa agagagacac ctcaaacaaa tccaaatagg acttgatcag 360
caagcagagt acctgaacca atgcttggag 390

<210> 61
<211> 181
<212> DNA
<213> Homo sapiens

<400> 61
ccctcagaag ccagggtccc ccagctgagc agcctggaac tgaggagata tttccacagg 60
atagacaatt tcctgaaaga aaagaaatac agtgactgtg cctgggagat tgtccgagtg 120
gaaatcagaa gatgtttgta ttacttttac aaatttacag ctctattcag gaggaaataa 180
g 181

<210> 62
<211> 181
<212> DNA
<213> Homo sapiens

<400> 62
ccctcagaag ccagggtccc ccagctgagc agcctggaac tgaggagata tttccacagg 60
atagacaatt tcctgaaaga aaagaaatac agtgactgtg cctgggagat tgtccgagtg 120
gaaatcagaa gatgtttgta ttacttttac aaatttacag ctctattcag gaggaaataa 180
g 181

<210> 63
<211> 207
<212> PRT
<213> Homo sapiens

<400> 63
Met Ser Thr Lys Pro Asp Met Ile Gln Lys Cys Leu Trp Leu Glu Ile
1 5 10 15

Leu Met Gly Ile Phe Ile Ala Gly Thr Leu Ser Leu Asp Cys Asn Leu
20 25 30

Leu Asn Val His Leu Arg Arg Val Thr Trp Gln Asn Leu Arg His Leu

```
         35                  40                  45

Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys Leu Arg Glu Asn Ile
     50                  55                  60

Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Tyr Thr Gln Pro Met Lys
 65                  70                  75                  80

Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser Leu Gln Ala Phe Asn
                 85                  90                  95

Ile Phe Ser Gln His Thr Phe Lys Tyr Trp Lys Glu Arg His Leu Lys
            100                 105                 110

Gln Ile Gln Ile Gly Leu Asp Gln Gln Ala Glu Tyr Leu Asn Gln Cys
        115                 120                 125

Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met Lys Glu Met Lys Glu
    130                 135                 140

Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro Gln Leu Ser Ser Leu
145                 150                 155                 160

Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn Phe Leu Lys Glu Lys
                165                 170                 175

Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg Val Glu Ile Arg Arg
            180                 185                 190

Cys Leu Tyr Tyr Phe Tyr Lys Phe Thr Ala Leu Phe Arg Arg Lys
        195                 200                 205
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<210> 64
<211> 207
<212> PRT
<213> Homo sapiens

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<400> 64
Met Ser Thr Lys Pro Asp Met Ile Gln Lys Cys Leu Trp Leu Glu Ile
  1               5                  10                  15

Leu Met Gly Ile Phe Ile Ala Gly Thr Leu Ser Leu Asp Cys Asn Leu
             20                  25                  30

Leu Asn Val His Leu Arg Arg Val Thr Trp Gln Asn Leu Arg His Leu
         35                  40                  45

Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys Leu Arg Glu Asn Ile
     50                  55                  60

Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Tyr Thr Gln Pro Met Lys
 65                  70                  75                  80

Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser Leu Gln Ala Phe Asn
                 85                  90                  95
```

```
Ile Phe Ser Gln His Thr Phe Lys Tyr Trp Lys Glu Arg His Leu Lys
            100                 105                 110

Gln Ile Gln Ile Gly Leu Asp Gln Gln Ala Glu Tyr Leu Asn Gln Cys
        115                 120                 125

Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met Lys Glu Met Lys Glu
    130                 135                 140

Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro Gln Leu Ser Ser Leu
145                 150                 155                 160

Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn Phe Leu Lys Glu Lys
                165                 170                 175

Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg Val Glu Ile Arg Arg
            180                 185                 190

Cys Leu Tyr Tyr Phe Tyr Lys Phe Thr Ala Leu Phe Arg Arg Lys
        195                 200                 205
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<210> 65
<211> 228
<212> DNA
<213> Homo sapiens

<400> 65
ccaaagggga cgctgtggcc aaccacgttc cggccggctg gcccgaccag agcctggctg 60
agagtgacag tgaggacccc agcggcaagc cccgcctgaa ggtggagacc aaggtcagcg 120
tggagctgca ccgcgaggag cagggcagtc accgtggaga gtacccccg gaccaggaga 180
gcgggggcgc agccaggctt gctagcagcc agcccccaga gcagagga 228

<210> 66
<211> 228
<212> DNA
<213> Homo sapiens

<400> 66
cctcagggga cgctgtggcc aaccacgttc cggccggctg gcccgaccag agcctggctg 60
agagtgacag tgaggacccc agcggcaagc cccgcctgaa ggtggagacc aaggtcagcg 120
tggagctgca ccgcgaggag cagggcagtc accgtggaga gtacccccg gaccaggaga 180
gcgggggcgc agccaggctt gctagcagcc agcccccaga gcagagga 228

<210> 67
<211> 3492
<212> DNA
<213> Homo sapiens

<400> 67
atggcgccgc cgccgccgcc cgtgctgccc gtgctgctgc tcctggccgc cgccgccgcc 60
ctgccggcga tggggctgcg agcggccgcc tgggagccgc gcgtacccgg cgggacccgc 120
gccttcgccc tccggcccgg ctgtacctac gcggtgggcg ccgcttgcac gccccgggcg 180
ccgcgggagc tgctggacgt gggccgcgat gggcggctgg caggacgtcg gcgcgtctcg 240
ggcgcggggc gcccgctgcc gctgcaagtc cgcttggtgg cccgcagtgc cccgacggcg 300

ctgagccgcc gcctgcgggc gcgcacgcac cttcccggct gcggagcccg tgcccggctc 360
tgcggaaccg gtgcccggct ctgcggggcg ctctgcttcc ccgtccccgg cggctgcgcg 420
gccgcgcagc attcggcgct cgcagctccg accaccttac ccgcctgccg ctgcccgccg 480
cgccccaggc cccgctgtcc cggccgtccc atctgcctgc cgccgggcgg ctcggtccgc 540
ctgcgtctgc tgtgcgccct gcggcgcgcg gctggcgccg tccgggtggg actggcgctg 600
aacttgcccg aagcccgggc ggggccggcg cgacgggccc ggcggggcac gagcggcaga 660
gggagcctga agtttccgat gcccaactac caggtggcgt tgtttgagaa cgaaccggcg 720
ggcaccctca tcctccagct gcacgcgcac tacaccatcg agggcgagga ggagcgcgtg 780
agctattaca tggaggggct gttcgacgag cgctcccggg gctacttccg aatcgactct 840
gccacgggcg ccgtgagcac ggacagcgta ctggaccgcg agaccaagga gacgcacgtc 900
ctcagggtga aagccgtgga ctacagtacg ccgccgcgct cggccaccac ctacatcact 960
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Pro Arg Val Pro Gly Gly Thr Arg Ala Phe Ala Leu Arg Pro Gly Cys
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Thr Tyr Ala Val Gly Ala Ala Cys Thr Pro Arg Ala Pro Arg Glu Leu
     50                  55                  60

Leu Asp Val Gly Arg Asp Gly Arg Leu Ala Gly Arg Arg Arg Val Ser
 65                  70                  75                  80

Gly Ala Gly Arg Pro Leu Pro Leu Gln Val Arg Leu Val Ala Arg Ser
                 85                  90                  95

Ala Pro Thr Ala Leu Ser Arg Arg Leu Arg Ala Arg Thr His Leu Pro
            100                 105                 110

Gly Cys Gly Ala Arg Ala Arg Leu Cys Gly Thr Gly Ala Arg Leu Cys
        115                 120                 125

Gly Ala Leu Cys Phe Pro Val Pro Gly Gly Cys Ala Ala Ala Gln His
    130                 135                 140

Ser Ala Leu Ala Ala Pro Thr Thr Leu Pro Ala Cys Arg Cys Pro Pro
145                 150                 155                 160

Arg Pro Arg Pro Arg Cys Pro Gly Arg Pro Ile Cys Leu Pro Pro Gly
                165                 170                 175

Gly Ser Val Arg Leu Arg Leu Leu Cys Ala Leu Arg Arg Ala Ala Gly
            180                 185                 190

Ala Val Arg Val Gly Leu Ala Leu Glu Ala Ala Thr Ala Gly Thr Pro
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Ser Ala Ser Pro Ser Pro Ser Pro Pro Leu Pro Pro Asn Leu Pro Glu
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Ala Arg Ala Gly Pro Ala Arg Arg Ala Arg Arg Gly Thr Ser Gly Arg
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Gly Ser Leu Lys Phe Pro Met Pro Asn Tyr Gln Val Ala Leu Phe Glu
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Asn Glu Pro Ala Gly Thr Leu Ile Leu Gln Leu His Ala His Tyr Thr
            260                 265                 270

Ile Glu Gly Glu Glu Glu Arg Val Ser Tyr Tyr Met Glu Gly Leu Phe
        275                 280                 285

Asp Glu Arg Ser Arg Gly Tyr Phe Arg Ile Asp Ser Ala Thr Gly Ala
    290                 295                 300

Val Ser Thr Asp Ser Val Leu Asp Arg Glu Thr Lys Glu Thr His Val
305                 310                 315                 320

Leu Arg Val Lys Ala Val Asp Tyr Ser Thr Pro Pro Arg Ser Ala Thr
                325                 330                 335

Thr Tyr Ile Thr Val Leu Val Lys Asp Thr Asn Asp His Ser Pro Val
            340                 345                 350

Phe Glu Gln Ser Glu Tyr Arg Glu Arg Val Arg Glu Asn Leu Glu Val
        355                 360                 365

Gly Tyr Glu Val Leu Thr Ile Arg Ala Ser Asp Arg Asp Ser Pro Ile
    370                 375                 380

Asn Ala Asn Leu Arg Tyr Arg Val Leu Gly Gly Ala Trp Asp Val Phe
385                 390                 395                 400

Gln Leu Asn Glu Ser Ser Gly Val Val Ser Thr Arg Ala Val Leu Asp
                405                 410                 415

Arg Glu Glu Ala Ala Glu Tyr Gln Leu Leu Val Glu Ala Asn Asp Gln
            420                 425                 430

Gly Arg Asn Pro Gly Pro Leu Ser Ala Thr Ala Thr Val Tyr Ile Glu
        435                 440                 445

Val Glu Asp Glu Asn Asp Asn Tyr Pro Gln Phe Ser Glu Gln Asn Tyr
    450                 455                 460

Val Val Gln Val Pro Glu Asp Val Gly Leu Asn Thr Ala Val Leu Arg
465                 470                 475                 480

Val Gln Ala Thr Asp Arg Asp Gln Gly Gln Asn Ala Ala Ile His Tyr
                485                 490                 495

Ser Ile Leu Ser Gly Asn Val Ala Gly Gln Phe Tyr Leu His Ser Leu
            500                 505                 510

Ser Gly Ile Leu Asp Val Ile Asn Pro Leu Asp Phe Glu Asp Val Gln
        515                 520                 525
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Lys Tyr Ser Leu Ser Ile Lys Ala Gln Asp Gly Gly Arg Pro Pro Leu
    530                 535                 540

Ile Asn Ser Ser Gly Val Val Ser Val Gln Val Leu Asp Val Asn Asp
545                 550                 555                 560

Asn Glu Pro Ile Phe Val Ser Ser Pro Phe Gln Ala Thr Val Leu Glu
                565                 570                 575

Asn Val Pro Leu Gly Tyr Pro Val Val His Ile Gln Ala Val Asp Ala
            580                 585                 590

Asp Ser Gly Glu Asn Ala Arg Leu His Tyr Arg Leu Val Asp Thr Ala
        595                 600                 605

Ser Thr Phe Leu Gly Gly Gly Ser Ala Gly Pro Lys Asn Pro Ala Pro
    610                 615                 620

Thr Pro Asp Phe Pro Phe Gln Ile His Asn Ser Ser Gly Trp Ile Thr
625                 630                 635                 640

Val Cys Ala Glu Leu Asp Arg Glu Glu Val Glu His Tyr Ser Phe Gly
                645                 650                 655

Val Glu Ala Val Asp His Gly Ser Pro Pro Met Ser Ser Ser Thr Ser
            660                 665                 670

Val Ser Ile Thr Val Leu Asp Val Asn Asp Asn Asp Pro Val Phe Thr
        675                 680                 685

Gln Pro Thr Tyr Glu Leu Arg Leu Asn Glu Asp Ala Ala Val Gly Ser
    690                 695                 700

Ser Val Leu Thr Leu Gln Ala Arg Asp Arg Asp Ala Asn Ser Val Ile
705                 710                 715                 720

Thr Tyr Gln Leu Thr Gly Gly Asn Thr Arg Asn Arg Phe Ala Leu Ser
                725                 730                 735

Ser Gln Arg Gly Gly Gly Leu Ile Thr Leu Ala Leu Pro Leu Asp Tyr
            740                 745                 750

Lys Gln Glu Gln Gln Tyr Val Leu Ala Val Thr Ala Ser Asp Gly Thr
        755                 760                 765

Arg Ser His Thr Ala His Val Leu Ile Asn Val Thr Asp Ala Asn Thr
    770                 775                 780

His Arg Pro Val Phe Gln Ser Ser His Tyr Thr Val Ser Val Ser Glu
785                 790                 795                 800

Asp Arg Pro Val Gly Thr Ser Ile Ala Thr Leu Ser Ala Asn Asp Glu
                805                 810                 815

Asp Thr Gly Glu Asn Ala Arg Ile Thr Tyr Val Ile Gln Asp Pro Val
            820                 825                 830
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Pro Gln Phe Arg Ile Asp Pro Asp Ser Gly Thr Met Tyr Thr Met Met
        835                 840                 845

Glu Leu Asp Tyr Glu Asn Gln Val Ala Tyr Thr Leu Thr Ile Met Ala
    850                 855                 860

Gln Asp Asn Gly Ile Pro Gln Lys Ser Asp Thr Thr Thr Leu Glu Ile
865                 870                 875                 880

Leu Ile Leu Asp Ala Asn Asp Asn Ala Pro Gln Phe Leu Trp Asp Phe
                885                 890                 895

Tyr Gln Gly Ser Ile Phe Glu Asp Ala Pro Pro Ser Thr Ser Ile Leu
            900                 905                 910

Gln Val Ser Ala Thr Asp Arg Asp Ser Gly Pro Asn Gly Arg Leu Leu
        915                 920                 925

Tyr Thr Phe Gln Gly Gly Asp Asp Gly Asp Gly Asp Phe Tyr Ile Glu
    930                 935                 940

Pro Thr Ser Gly Val Ile Arg Thr Gln Arg Arg Leu Asp Arg Glu Asn
945                 950                 955                 960

Val Ala Val Tyr Asn Leu Trp Ala Leu Ala Val Asp Arg Gly Ser Pro
                965                 970                 975

Thr Pro Leu Ser Ala Ser Val Glu Ile Gln Val Thr Ile Leu Asp Ile
            980                 985                 990

Asn Asp Asn Ala Pro Met Phe Glu Lys Asp Glu Leu Glu Leu Phe Val
        995                1000                1005

Glu Glu Asn Asn Pro Val Gly Ser Val Val Ala Lys Ile Arg Ala Asn
   1010                1015                1020

Asp Pro Asp Glu Gly Pro Asn Ala Gln Ile Met Tyr Gln Ile Val Glu
1025                1030                1035                1040

Gly Asp Met Arg His Phe Phe Gln Leu Asp Leu Leu Asn Gly Asp Leu
                1045                1050                1055

Arg Ala Met Val Glu Leu Asp Phe Glu Val Arg Arg Glu Tyr Val Leu
            1060                1065                1070

Val Val Gln Ala Thr Ser Ala Pro Leu Val Ser Arg Ala Thr Val His
        1075                1080                1085

Ile Leu Leu Val Asp Gln Asn Asp Asn Pro Pro Val Leu Pro Asp Phe
   1090                1095                1100

Gln Ile Leu Phe Asn Asn Tyr Val Thr Asn Lys Ser Asn Ser Phe Pro
1105                1110                1115                1120

Thr Gly Val Ile Gly Cys Ile Pro Ala His Asp Pro Asp Val Ser Asp
                1125                1130                1135
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Ser Leu Asn Tyr Thr Phe Val Gln Gly Asn Glu Leu Arg Leu Leu Leu
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Leu Asp Pro Ala Thr Gly Glu Leu Gln Leu Ser Arg Asp Leu Asp Asn
       1155                1160                1165

Asn Arg Pro Leu Glu Ala Leu Met Glu Val Ser Val Ser Ala Asp Gly
   1170                1175                1180

Ile His Ser Val Thr Ala Phe Cys Thr Leu Arg Val Thr Ile Ile Thr
1185                1190                1195                1200

Asp Asp Met Leu Thr Asn Ser Ile Thr Val Arg Leu Glu Asn Met Ser
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Gln Glu Lys Phe Leu Ser Pro Leu Leu Ala Leu Phe Val Glu Gly Val
           1220                1225                1230

Ala Ala Val Leu Ser Thr Thr Lys Asp Asp Val Phe Val Phe Asn Val
       1235                1240                1245

Gln Asn Asp Thr Asp Val Ser Ser Asn Ile Leu Asn Val Thr Phe Ser
   1250                1255                1260

Ala Leu Leu Pro Gly Gly Val Arg Gly Gln Phe Phe Pro Ser Glu Asp
1265                1270                1275                1280

Leu Gln Glu Gln Ile Tyr Leu Asn Arg Thr Leu Leu Thr Thr Ile Ser
               1285                1290                1295

Thr Gln Arg Val Leu Pro Phe Asp Asp Asn Ile Cys Leu Arg Glu Pro
           1300                1305                1310

Cys Glu Asn Tyr Met Lys Cys Val Ser Val Leu Arg Phe Asp Ser Ser
       1315                1320                1325

Ala Pro Phe Leu Ser Ser Thr Thr Val Leu Phe Arg Pro Ile His Pro
   1330                1335                1340

Ile Asn Gly Leu Arg Cys Arg Cys Pro Pro Gly Phe Thr Gly Asp Tyr
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Cys Glu Thr Glu Ile Asp Leu Cys Tyr Ser Asp Pro Cys Gly Ala Asn
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Gly Arg Cys Arg Ser Arg Glu Gly Gly Tyr Thr Cys Glu Cys Phe Glu
           1380                1385                1390

Asp Phe Thr Gly Glu His Cys Glu Val Asp Ala Arg Ser Gly Arg Cys
       1395                1400                1405

Ala Asn Gly Val Cys Lys Asn Gly Gly Thr Cys Val Asn Leu Leu Ile
   1410                1415                1420

Gly Gly Phe His Cys Val Cys Pro Pro Gly Glu Tyr Glu Arg Pro Tyr
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Cys Glu Val Thr Thr Arg Ser Phe Pro Pro Gln Ser Phe Val Thr Phe
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Arg Gly Leu Arg Gln Arg Phe His Phe Thr Ile Ser Leu Thr Phe Ala
           1460                1465                1470

Thr Gln Glu Arg Asn Gly Leu Leu Leu Tyr Asn Gly Arg Phe Asn Glu
       1475                1480                1485

Lys His Asp Phe Ile Ala Leu Glu Ile Val Asp Glu Gln Val Gln Leu
   1490                1495                1500

Thr Phe Ser Ala Gly Ala Gly Glu Thr Thr Thr Thr Val Ala Pro Lys
1505               1510                1515                1520

Val Pro Ser Gly Val Ser Asp Gly Arg Trp His Ser Val Gln Val Gln
               1525                1530                1535

Tyr Tyr Asn Lys Val Arg Trp Ala Pro Pro Leu Pro Pro Gly Pro Gln
           1540                1545                1550

Pro Asn Ile Gly His Leu Gly Leu Pro His Gly Pro Ser Gly Glu Lys
       1555                1560                1565

Met Ala Val Val Thr Val Asp Asp Cys Asp Thr Thr Met Ala Val Arg
   1570                1575                1580

Phe Gly Lys Asp Ile Gly Asn Tyr Ser Cys Ala Ala Gln Gly Thr Gln
1585               1590                1595                1600

Thr Gly Ser Lys Lys Ser Leu Asp Leu Thr Gly Pro Leu Leu Leu Gly
               1605                1610                1615

Gly Val Pro Asn Leu Pro Glu Asp Phe Pro Val His Asn Arg Gln Phe
           1620                1625                1630

Val Gly Cys Met Arg Asn Leu Ser Val Asp Gly Lys Asn Val Asp Met
       1635                1640                1645

Ala Gly Phe Ile Ala Asn Asn Gly Thr Arg Glu Gly Cys Ala Ala Arg
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Arg Asn Phe Cys Asp Gly Arg Arg Cys Gln Asn Gly Gly Thr Cys Val
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Asn Arg Trp Asn Met Tyr Leu Cys Glu Cys Pro Leu Arg Phe Gly Gly
               1685                1690                1695

Lys Asn Cys Glu Gln Ala Met Pro His Pro Gln Leu Phe Ser Gly Glu
           1700                1705                1710

Ser Val Val Ser Trp Ser Asp Leu Asn Ile Ile Ile Ser Val Pro Trp
       1715                1720                1725

Tyr Leu Gly Leu Met Phe Arg Thr Arg Lys Glu Asp Ser Val Leu Met
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Glu Ala Thr Ser Gly Gly Pro Thr Ser Phe Arg Leu Gln Ile Leu Asn
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Asn Tyr Leu Gln Phe Glu Val Ser His Gly Pro Ser Asp Val Glu Ser
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Val Met Leu Ser Gly Leu Arg Val Thr Asp Gly Glu Trp His His Leu
            1780                1785                1790

Leu Ile Glu Leu Lys Asn Val Lys Glu Asp Ser Glu Met Lys His Leu
        1795                1800                1805

Val Thr Met Thr Leu Asp Tyr Gly Met Asp Gln Asn Lys Ala Asp Ile
    1810                1815                1820

Gly Gly Met Leu Pro Gly Leu Thr Val Arg Ser Val Val Val Gly Gly
1825                1830                1835                1840

Ala Ser Glu Asp Lys Val Ser Val Arg Arg Gly Phe Arg Gly Cys Met
                1845                1850                1855

Gln Gly Val Arg Met Gly Gly Thr Pro Thr Asn Val Ala Thr Leu Asn
            1860                1865                1870

Met Asn Asn Ala Leu Lys Val Arg Val Lys Asp Gly Cys Asp Val Asp
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Asp Pro Cys Thr Ser Ser Pro Cys Pro Pro Asn Ser Arg Cys His Asp
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Ala Trp Glu Asp Tyr Ser Cys Val Cys Asp Lys Gly Tyr Leu Gly Ile
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Asn Cys Val Asp Ala Cys His Leu Asn Pro Cys Glu Asn Met Gly Ala
                1925                1930                1935

Cys Val Arg Ser Pro Gly Ser Pro Gln Gly Tyr Val Cys Glu Cys Gly
            1940                1945                1950

Pro Ser His Tyr Gly Pro Tyr Cys Glu Asn Lys Leu Asp Leu Pro Cys
        1955                1960                1965

Pro Arg Gly Trp Trp Gly Asn Pro Val Cys Gly Pro Cys His Cys Ala
    1970                1975                1980

Val Ser Lys Gly Phe Asp Pro Asp Cys Asn Lys Thr Asn Gly Gln Cys
1985                1990                1995                2000

Gln Cys Lys Glu Asn Tyr Tyr Lys Leu Leu Ala Gln Asp Thr Cys Leu
                2005                2010                2015

Pro Cys Asp Cys Phe Pro His Gly Ser His Ser Arg Thr Cys Asp Met
            2020                2025                2030

Ala Thr Gly Gln Cys Ala Cys Lys Pro Gly Val Ile Gly Arg Gln Cys
        2035                2040                2045
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Asn Arg Cys Asp Asn Pro Phe Ala Glu Val Thr Thr Leu Gly Cys Glu
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Val Ile Tyr Asn Gly Cys Pro Lys Ala Phe Glu Ala Gly Ile Trp Trp
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Pro Gln Thr Lys Phe Gly Gln Pro Ala Ala Val Pro Cys Pro Lys Gly
                2085                2090                2095

Ser Val Gly Asn Ala Val Arg His Cys Ser Gly Glu Lys Gly Trp Leu
            2100                2105                2110

Pro Pro Glu Leu Phe Asn Cys Thr Thr Ile Ser Phe Val Asp Leu Arg
        2115                2120                2125

Ala Met Asn Glu Lys Leu Ser Arg Asn Glu Thr Gln Val Asp Gly Ala
   2130                2135                2140

Arg Ala Leu Gln Leu Val Arg Ala Leu Arg Ser Ala Thr Gln His Thr
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Gly Thr Leu Phe Gly Asn Asp Val Arg Thr Ala Tyr Gln Leu Leu Gly
                2165                2170                2175

His Val Leu Gln His Glu Ser Trp Gln Gln Gly Phe Asp Leu Ala Ala
            2180                2185                2190

Thr Gln Asp Ala Asp Phe His Glu Asp Val Ile His Ser Gly Ser Ala
        2195                2200                2205

Leu Leu Ala Pro Ala Thr Arg Ala Ala Trp Glu Gln Ile Gln Arg Ser
   2210                2215                2220

Glu Gly Gly Thr Ala Gln Leu Leu Arg Arg Leu Glu Gly Tyr Phe Ser
2225                2230                2235                2240

Asn Val Ala Arg Asn Val Arg Arg Thr Tyr Leu Arg Pro Phe Val Ile
                2245                2250                2255

Val Thr Ala Asn Met Val Leu Ala Val Asp Ile Phe Asp Lys Phe Asn
            2260                2265                2270

Phe Thr Gly Ala Arg Val Pro Arg Phe Asp Thr Ile His Glu Glu Phe
        2275                2280                2285

Pro Arg Glu Leu Glu Ser Ser Val Ser Phe Pro Ala Asp Phe Phe Arg
   2290                2295                2300

Pro Pro Glu Glu Lys Glu Gly Pro Leu Leu Arg Pro Ala Gly Arg Arg
2305                2310                2315                2320

Thr Thr Pro Gln Thr Thr Arg Pro Gly Pro Gly Thr Glu Arg Glu Ala
                2325                2330                2335

Pro Ile Ser Arg Arg Arg Arg His Pro Asp Asp Ala Gly Gln Phe Ala
            2340                2345                2350
```

Val Ala Leu Val Ile Ile Tyr Arg Thr Leu Gly Gln Leu Leu Pro Glu
2355 2360 2365

Arg Tyr Asp Pro Asp Arg Arg Ser Leu Arg Leu Pro His Arg Pro Ile
2370 2375 2380

Ile Asn Thr Pro Met Val Ser Thr Leu Val Tyr Ser Glu Gly Ala Pro
2385 2390 2395 2400

Leu Pro Arg Pro Leu Glu Arg Pro Val Leu Val Glu Phe Ala Leu Leu
2405 2410 2415

Glu Val Glu Glu Arg Thr Lys Pro Val Cys Val Phe Trp Asn His Ser
2420 2425 2430

Leu Ala Val Gly Gly Thr Gly Gly Trp Ser Ala Arg Gly Cys Glu Leu
2435 2440 2445

Leu Ser Arg Asn Arg Thr His Val Ala Cys Gln Cys Ser His Thr Ala
2450 2455 2460

Ser Phe Ala Val Leu Met Asp Ile Ser Arg Arg Glu Asn Gly Glu Val
2465 2470 2475 2480

Leu Pro Leu Lys Ile Val Thr Tyr Ala Ala Val Ser Leu Ser Leu Ala
2485 2490 2495

Ala Leu Leu Val Ala Phe Val Leu Leu Ser Leu Val Arg Met Leu Arg
2500 2505 2510

Ser Asn Leu His Ser Ile His Lys His Leu Ala Val Ala Leu Phe Leu
2515 2520 2525

Ser Gln Leu Val Phe Val Ile Gly Ile Asn Gln Thr Glu Asn Pro Phe
2530 2535 2540

Leu Cys Thr Val Val Ala Ile Leu Leu His Tyr Ile Tyr Met Ser Thr
2545 2550 2555 2560

Phe Ala Trp Thr Leu Val Glu Ser Leu His Val Tyr Arg Met Leu Thr
2565 2570 2575

Glu Val Arg Asn Ile Asp Thr Gly Pro Met Arg Phe Tyr Tyr Val Val
2580 2585 2590

Gly Trp Gly Ile Pro Ala Ile Val Thr Gly Leu Ala Val Gly Leu Asp
2595 2600 2605

Pro Gln Gly Tyr Gly Asn Pro Asp Phe Cys Trp Leu Ser Leu Gln Asp
2610 2615 2620

Thr Leu Ile Trp Ser Phe Ala Gly Pro Ile Gly Ala Val Ile Ile Ile
2625 2630 2635 2640

Asn Thr Val Thr Ser Val Leu Ser Ala Lys Val Ser Cys Gln Arg Lys
2645 2650 2655

His His Tyr Tyr Gly Lys Lys Gly Ile Val Ser Leu Leu Arg Thr Ala
2660 2665 2670

Phe Leu Leu Leu Leu Leu Ile Ser Ala Thr Trp Leu Leu Gly Leu Leu
2675 2680 2685

Ala Val Asn Arg Asp Ala Leu Ser Phe His Tyr Leu Phe Ala Ile Phe
2690 2695 2700

Ser Gly Leu Gln Gly Pro Phe Val Leu Leu Phe His Cys Val Leu Asn
2705 2710 2715 2720

Gln Glu Val Arg Lys His Leu Lys Gly Val Leu Gly Gly Arg Lys Leu
2725 2730 2735

His Leu Glu Asp Ser Ala Thr Thr Arg Ala Thr Leu Leu Thr Arg Ser
2740 2745 2750

Leu Asn Cys Asn Thr Thr Phe Gly Asp Gly Pro Asp Met Leu Arg Thr
2755 2760 2765

Asp Leu Gly Glu Ser Thr Ala Ser Leu Asp Ser Ile Val Arg Asp Glu
2770 2775 2780

Gly Ile Gln Lys Leu Gly Val Ser Ser Gly Leu Val Arg Gly Ser His
2785 2790 2795 2800

Gly Glu Pro Asp Ala Ser Leu Met Pro Arg Ser Cys Lys Asp Pro Pro
2805 2810 2815

Gly His Asp Ser Asp Ser Asp Ser Glu Leu Ser Leu Asp Glu Gln Ser
2820 2825 2830

Ser Ser Tyr Ala Ser Ser His Ser Ser Asp Ser Glu Asp Asp Gly Val
2835 2840 2845

Gly Ala Glu Glu Lys Trp Asp Pro Ala Arg Gly Ala Val His Ser Thr
2850 2855 2860

Pro Lys Gly Asp Ala Val Ala Asn His Val Pro Ala Gly Trp Pro Asp
2865 2870 2875 2880

Gln Ser Leu Ala Glu Ser Asp Ser Glu Asp Pro Ser Gly Lys Pro Arg
2885 2890 2895

Leu Lys Val Glu Thr Lys Val Ser Val Glu Leu His Arg Glu Glu Gln
2900 2905 2910

Gly Ser His Arg Gly Glu Tyr Pro Pro Asp Gln Glu Ser Gly Gly Ala
2915 2920 2925

Ala Arg Leu Ala Ser Ser Gln Pro Pro Glu Gln Arg Ser Ile Leu Lys
2930 2935 2940

Asn Lys Val Thr Tyr Pro Pro Pro Leu Thr Leu Thr Glu Gln Thr Leu
2945 2950 2955 2960

```
Lys Gly Arg Leu Arg Glu Lys Leu Ala Asp Cys Glu Gln Ser Pro Thr
               2965                2970                2975

Ser Ser Arg Thr Ser Ser Leu Gly Ser Gly Gly Pro Asp Cys Ala Ile
           2980                2985                2990

Thr Val Lys Ser Pro Gly Arg Glu Pro Gly Arg Asp His Leu Asn Gly
       2995                3000                3005

Val Ala Met Asn Val Arg Thr Gly Ser Ala Gln Ala Asp Gly Ser Asp
   3010                3015                3020

Ser Glu Lys Pro
3025
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<210> 70
<211> 3034
<212> PRT
<213> Mus musculus

<400> 70

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Met Ala Pro Ser Ser Pro Arg Val Leu Pro Ala Leu Val Leu Leu Ala
  1               5                  10                  15

Ala Ala Ala Leu Pro Ala Leu Glu Leu Gly Ala Ala Ala Trp Glu Leu
             20                  25                  30

Arg Val Pro Gly Gly Ala Arg Ala Phe Ala Leu Gly Pro Gly Trp Ser
         35                  40                  45

Tyr Arg Leu Asp Thr Thr Arg Thr Pro Arg Glu Leu Leu Asp Val Ser
     50                  55                  60

Arg Glu Gly Pro Ala Ala Gly Arg Arg Leu Gly Leu Gly Ala Gly Thr
 65                  70                  75                  80

Leu Gly Cys Ala Arg Leu Ala Gly Arg Leu Leu Pro Leu Gln Val Arg
                 85                  90                  95

Leu Val Ala Arg Gly Ala Pro Thr Ala Pro Ser Leu Val Leu Arg Ala
            100                 105                 110

Arg Ala Tyr Gly Ala Arg Cys Gly Val Arg Leu Leu Arg Arg Ser Ala
        115                 120                 125

Arg Gly Ala Glu Leu Arg Ser Pro Ala Val Arg Ser Val Pro Gly Leu
    130                 135                 140

Gly Asp Ala Leu Cys Phe Pro Ala Ala Gly Gly Gly Ala Ala Ser Leu
145                 150                 155                 160

Thr Ser Val Leu Glu Ala Ile Thr Asn Phe Pro Ala Cys Ser Cys Pro
                165                 170                 175

Pro Val Ala Gly Thr Gly Cys Arg Arg Gly Pro Ile Cys Leu Arg Pro
            180                 185                 190
```

```
Gly Gly Ser Ala Glu Leu Arg Leu Val Cys Ala Leu Gly Arg Ala Ala
        195                 200                 205

Gly Ala Val Trp Val Glu Leu Val Ile Gln Ala Thr Ser Gly Thr Pro
    210                 215                 220

Ser Glu Ser Pro Ser Val Ser Pro Ser Leu Leu Asn Leu Ser Gln Pro
225                 230                 235                 240

Arg Ala Gly Val Val Arg Arg Ser Arg Arg Gly Thr Gly Ser Ser Thr
                245                 250                 255

Ser Pro Gln Phe Pro Leu Pro Ser Tyr Gln Val Ser Val Pro Glu Asn
            260                 265                 270

Glu Pro Ala Gly Thr Ala Val Ile Glu Leu Arg Ala His Asp Pro Asp
        275                 280                 285

Glu Gly Asp Ala Gly Arg Leu Ser Tyr Gln Met Glu Ala Leu Phe Asp
    290                 295                 300

Glu Arg Ser Asn Gly Tyr Phe Leu Ile Asp Ala Ala Thr Gly Ala Val
305                 310                 315                 320

Thr Thr Ala Arg Ser Leu Asp Arg Glu Thr Lys Asp Thr His Val Leu
                325                 330                 335

Lys Val Ser Ala Val Asp His Gly Ser Pro Arg Arg Ser Ala Ala Thr
            340                 345                 350

Tyr Leu Thr Val Thr Val Ser Asp Thr Asn Asp His Ser Pro Val Phe
        355                 360                 365

Glu Gln Ser Glu Tyr Arg Glu Arg Ile Arg Glu Asn Leu Glu Val Gly
    370                 375                 380

Tyr Glu Val Leu Thr Ile Arg Ala Thr Asp Gly Asp Ala Pro Ser Asn
385                 390                 395                 400

Ala Asn Met Arg Tyr Arg Leu Leu Glu Gly Ala Gly Gly Val Phe Glu
                405                 410                 415

Ile Asp Ala Arg Ser Gly Val Val Arg Thr Arg Ala Val Val Asp Arg
            420                 425                 430

Glu Glu Ala Ala Glu Tyr Gln Leu Leu Val Glu Ala Asn Asp Gln Gly
        435                 440                 445

Arg Asn Pro Gly Pro Leu Ser Ala Ser Ala Thr Val His Ile Val Val
    450                 455                 460

Glu Asp Glu Asn Asp Asn Tyr Pro Gln Phe Ser Glu Lys Arg Tyr Val
465                 470                 475                 480

Val Gln Val Pro Glu Asp Val Ala Val Asn Thr Ala Val Leu Arg Val
                485                 490                 495
```

```
Gln Ala Thr Asp Arg Asp Gln Gly Gln Asn Ala Ala Ile His Tyr Ser
            500                 505                 510

Ile Val Ser Gly Asn Leu Lys Gly Gln Phe Tyr Leu His Ser Leu Ser
        515                 520                 525

Gly Ser Leu Asp Val Ile Asn Pro Leu Asp Phe Glu Ala Ile Arg Glu
    530                 535                 540

Tyr Thr Leu Arg Ile Lys Ala Gln Asp Gly Gly Arg Pro Pro Leu Ile
545                 550                 555                 560

Asn Ser Ser Gly Leu Val Ser Val Gln Val Leu Asp Val Asn Asp Asn
                565                 570                 575

Ala Pro Ile Phe Val Ser Ser Pro Phe Gln Ala Ala Val Leu Glu Asn
            580                 585                 590

Val Pro Leu Gly His Ser Val Leu His Ile Gln Ala Val Asp Ala Asp
        595                 600                 605

Ala Gly Glu Asn Ala Arg Leu Gln Tyr Arg Leu Val Asp Thr Ala Ser
    610                 615                 620

Thr Ile Val Gly Gly Ser Ser Val Asp Ser Glu Asn Pro Ala Ser Ala
625                 630                 635                 640

Pro Asp Phe Pro Phe Gln Ile His Asn Ser Ser Gly Trp Ile Thr Val
                645                 650                 655

Cys Ala Glu Leu Asp Arg Glu Glu Val Glu His Tyr Ser Phe Gly Val
            660                 665                 670

Glu Ala Val Asp His Gly Ser Pro Ala Met Ser Ser Ser Ala Ser Val
        675                 680                 685

Ser Ile Thr Val Leu Asp Val Asn Asp Asn Asp Pro Met Phe Thr Gln
    690                 695                 700

Pro Val Tyr Glu Leu Arg Leu Asn Glu Asp Ala Ala Val Gly Ser Ser
705                 710                 715                 720

Val Leu Thr Leu Arg Ala Arg Asp Arg Asp Ala Asn Ser Val Ile Thr
                725                 730                 735

Tyr Gln Leu Thr Gly Gly Asn Thr Arg Asn Arg Phe Ala Leu Ser Ser
            740                 745                 750

Gln Ser Gly Gly Gly Leu Ile Thr Leu Ala Leu Pro Leu Asp Tyr Lys
        755                 760                 765

Gln Glu Arg Gln Tyr Val Leu Ala Val Thr Ala Ser Asp Gly Thr Arg
    770                 775                 780

Ser His Thr Ala Gln Val Phe Ile Asn Val Thr Asp Ala Asn Thr His
785                 790                 795                 800
```

```
Arg Pro Val Phe Gln Ser Ser His Tyr Thr Val Ser Val Ser Glu Asp
                805                 810                 815

Arg Pro Val Gly Thr Ser Ile Ala Thr Ile Ser Ala Thr Asp Glu Asp
            820                 825                 830

Thr Gly Glu Asn Ala Arg Ile Thr Tyr Val Leu Glu Asp Pro Val Pro
        835                 840                 845

Gln Phe Arq Ile Asp Pro Asp Thr Gly Thr Ile Tyr Thr Met Thr Glu
    850                 855                 860

Leu Asp Tyr Glu Asp Gln Ala Ala Tyr Thr Leu Ala Ile Thr Ala Gln
865                 870                 875                 880

Asp Asn Gly Ile Pro Gln Lys Ser Asp Thr Thr Ser Leu Glu Ile Leu
                885                 890                 895

Ile Leu Asp Ala Asn Asp Asn Ala Pro Arg Phe Leu Arg Asp Phe Tyr
            900                 905                 910

Gln Gly Ser Val Phe Glu Asp Ala Pro Pro Ser Thr Ser Val Leu Gln
        915                 920                 925

Val Ser Ala Thr Asp Arg Asp Ser Gly Pro Asn Gly Arg Leu Leu Tyr
    930                 935                 940

Thr Phe Gln Gly Gly Asp Asp Gly Asp Gly Asp Phe Tyr Ile Glu Pro
945                 950                 955                 960

Thr Ser Gly Val Ile Arg Thr Gln Arg Arg Leu Asp Arg Glu Asn Val
                965                 970                 975

Ala Val Tyr Asn Leu Trp Ala Leu Ala Val Asp Arg Gly Ser Pro Asn
            980                 985                 990

Pro Leu Ser Ala Ser Val Gly Ile Gln Val Ser Val Leu Asp Ile Asn
        995                1000                1005

Asp Asn Pro Pro Val Phe Glu Lys Asp Glu Leu Glu Leu Phe Val Glu
   1010                1015                1020

Glu Asn Ser Pro Val Gly Ser Val Val Ala Arg Ile Arg Ala Asn Asp
1025                1030                1035                1040

Pro Asp Glu Gly Pro Asn Ala Gln Ile Ile Tyr Gln Ile Val Glu Gly
               1045                1050                1055

Asn Val Pro Glu Val Phe Gln Leu Asp Leu Leu Ser Gly Asp Leu Arg
           1060                1065                1070

Ala Leu Val Glu Leu Asp Phe Glu Val Arg Arg Asp Tyr Met Leu Val
       1075                1080                1085

Val Gln Ala Thr Ser Ala Pro Leu Val Ser Arg Ala Thr Val His Ile
   1090                1095                1100
```

```
Arg Leu Leu Asp Gln Asn Asp Asn Pro Pro Glu Leu Pro Asp Phe Gln
1105                1110                1115                1120

Ile Leu Phe Asn Asn Tyr Val Thr Asn Lys Ser Asn Ser Phe Pro Ser
                1125                1130                1135

Gly Val Ile Gly Arg Ile Pro Ala His Asp Pro Asp Leu Ser Asp Ser
            1140                1145                1150

Leu Asn Tyr Thr Phe Leu Gln Gly Asn Glu Leu Ser Leu Leu Leu Leu
        1155                1160                1165

Asp Pro Ala Thr Gly Glu Leu Gln Leu Ser Arg Asp Leu Asp Asn Asn
    1170                1175                1180

Arg Pro Leu Glu Ala Leu Met Glu Val Ser Val Ser Asp Gly Ile His
1185                1190                1195                1200

Ser Val Thr Ala Leu Cys Thr Leu Arg Val Thr Ile Ile Thr Asp Asp
                1205                1210                1215

Met Leu Thr Asn Ser Ile Thr Val Arg Leu Glu Asn Met Ser Gln Glu
            1220                1225                1230

Lys Phe Leu Ser Pro Leu Leu Ser Leu Phe Val Glu Gly Val Ala Thr
        1235                1240                1245

Val Leu Ser Thr Thr Lys Asp Asp Ile Phe Val Phe Asn Ile Gln Asn
    1250                1255                1260

Asp Thr Asp Val Ser Ser Asn Ile Leu Asn Val Thr Phe Ser Ala Leu
1265                1270                1275                1280

Leu Pro Gly Gly Thr Arg Gly Arg Phe Phe Pro Ser Glu Asp Leu Gln
                1285                1290                1295

Glu Gln Ile Tyr Leu Asn Arg Thr Leu Leu Thr Thr Ile Ser Ala Gln
            1300                1305                1310

Arg Val Leu Pro Phe Asp Asp Asn Ile Cys Leu Arg Glu Pro Cys Glu
        1315                1320                1325

Asn Tyr Met Lys Cys Val Ser Val Leu Arg Phe Asp Ser Ser Ala Pro
    1330                1335                1340

Phe Ile Ser Ser Thr Thr Val Leu Phe Arg Pro Ile His Pro Ile Thr
1345                1350                1355                1360

Gly Leu Arg Cys Arg Cys Pro Pro Gly Phe Thr Gly Asp Tyr Cys Glu
                1365                1370                1375

Thr Glu Ile Asp Leu Cys Tyr Ser Asn Pro Cys Gly Ala Asn Gly Arg
            1380                1385                1390

Cys Arg Ser Arg Glu Gly Gly Tyr Thr Cys Glu Cys Phe Glu Asp Phe
        1395                1400                1405
```

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Thr Gly Glu His Cys Gln Val Asn Val Arg Ser Gly Arg Cys Ala Ser
   1410                1415                1420

Gly Val Cys Lys Asn Gly Gly Thr Cys Val Asn Leu Leu Ile Gly Gly
1425                1430                1435                1440

Phe His Cys Val Cys Pro Pro Gly Glu Tyr Glu His Pro Tyr Cys Glu
                1445                1450                1455

Val Ser Thr Arg Ser Phe Pro Pro Gln Ser Phe Val Thr Phe Arg Gly
            1460                1465                1470

Leu Arg Gln Arg Phe His Phe Thr Val Ser Leu Ala Phe Ala Thr Gln
        1475                1480                1485

Asp Arg Asn Ala Leu Leu Leu Tyr Asn Gly Arg Phe Asn Glu Lys His
   1490                1495                1500

Asp Phe Ile Ala Leu Glu Ile Val Glu Glu Gln Leu Gln Leu Thr Phe
1505                1510                1515                1520

Ser Ala Gly Glu Thr Thr Thr Thr Val Thr Pro Gln Val Pro Gly Gly
                1525                1530                1535

Val Ser Asp Gly Arg Trp His Ser Val Leu Val Gln Tyr Tyr Asn Lys
            1540                1545                1550

Pro Asn Ile Gly His Leu Gly Leu Pro His Gly Pro Ser Gly Glu Lys
        1555                1560                1565

Val Ala Val Val Thr Val Asp Asp Cys Asp Ala Ala Val Ala Val His
   1570                1575                1580

Phe Gly Ser Tyr Val Gly Asn Tyr Ser Cys Ala Ala Gln Gly Thr Gln
1585                1590                1595                1600

Ser Gly Ser Lys Lys Ser Leu Asp Leu Thr Gly Pro Leu Leu Leu Gly
                1605                1610                1615

Gly Val Pro Asn Leu Pro Glu Asp Phe Pro Val His Ser Arg Gln Phe
            1620                1625                1630

Val Gly Cys Met Arg Asn Leu Ser Ile Asp Gly Arg Ile Val Asp Met
        1635                1640                1645

Ala Ala Phe Ile Ala Asn Asn Gly Thr Arg Ala Gly Cys Ala Ser Gln
   1650                1655                1660

Arg Asn Phe Cys Asp Gly Thr Ser Cys Gln Asn Gly Gly Thr Cys Val
1665                1670                1675                1680

Asn Arg Trp Asn Thr Tyr Leu Cys Glu Cys Pro Leu Arg Phe Gly Gly
                1685                1690                1695

Lys Asn Cys Glu Gln Ala Met Pro His Pro Gln Arg Phe Thr Gly Glu
            1700                1705                1710
```

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Ser Val Val Leu Trp Ser Asp Leu Asp Ile Thr Ile Ser Val Pro Trp
      1715                1720                1725

Tyr Leu Gly Leu Met Phe Arg Thr Arg Lys Glu Asp Gly Val Leu Met
   1730                1735                1740

Glu Ala Thr Ala Gly Thr Ser Ser Arg Leu His Leu Gln Ile Leu Asn
1745                1750                1755                1760

Ser Tyr Ile Arg Phe Glu Val Ser Tyr Gly Pro Ser Asp Val Ala Ser
               1765                1770                1775

Met Gln Leu Ser Lys Ser Arg Ile Thr Asp Gly Gly Trp His His Leu
           1780                1785                1790

Leu Ile Glu Leu Arg Ser Ala Lys Glu Gly Lys Asp Ile Lys Tyr Leu
      1795                1800                1805

Ala Val Met Thr Leu Asp Tyr Gly Met Asp Gln Ser Thr Val Gln Ile
   1810                1815                1820

Gly Asn Gln Leu Pro Gly Leu Lys Met Arg Thr Ile Val Ile Gly Gly
1825                1830                1835                1840

Val Thr Glu Asp Lys Val Ser Val Arg His Gly Phe Arg Gly Cys Met
               1845                1850                1855

Gln Gly Val Arg Met Gly Glu Thr Ser Thr Asn Ile Ala Thr Leu Asn
           1860                1865                1870

Met Asn Asp Ala Leu Lys Val Arg Val Lys Asp Gly Cys Asp Val Glu
      1875                1880                1885

Asp Pro Cys Ala Ser Ser Pro Cys Pro Pro His Arg Pro Cys Arg Asp
   1890                1895                1900

Thr Trp Asp Ser Tyr Ser Cys Ile Cys Asp Arg Gly Tyr Phe Gly Lys
1905                1910                1915                1920

Lys Cys Val Asp Ala Cys Leu Leu Asn Pro Cys Lys His Val Ala Ala
               1925                1930                1935

Cys Val Arg Ser Pro Asn Thr Pro Arg Gly Tyr Ser Cys Glu Cys Gly
           1940                1945                1950

Pro Gly His Tyr Gly Gln Tyr Cys Glu Asn Lys Val Asp Leu Pro Cys
      1955                1960                1965

Pro Lys Gly Trp Trp Gly Asn Pro Val Cys Gly Pro Cys His Cys Ala
   1970                1975                1980

Val Ser Gln Gly Phe Asp Pro Asp Cys Asn Lys Thr Asn Gly Gln Cys
1985                1990                1995                2000

Gln Cys Lys Glu Asn Tyr Tyr Lys Pro Pro Ala Gln Asp Ala Cys Leu
               2005                2010                2015
```

```
Pro Cys Asp Cys Phe Pro His Gly Ser His Ser Arg Ala Cys Asp Met
          2020                2025                2030

Asp Thr Gly Gln Cys Ala Cys Lys Pro Gly Val Ile Gly Arg Gln Cys
       2035                2040                2045

Asn Arg Cys Asp Asn Pro Phe Ala Glu Val Thr Ser Leu Gly Cys Glu
   2050                2055                2060

Val Ile Tyr Asn Gly Cys Pro Arg Ala Phe Glu Ala Gly Ile Trp Trp
2065                2070                2075                2080

Pro Gln Thr Lys Phe Gly Gln Pro Ala Ala Val Pro Cys Pro Lys Gly
               2085                2090                2095

Ser Val Gly Asn Ala Val Arg His Cys Ser Gly Glu Lys Gly Trp Leu
          2100                2105                2110

Pro Pro Glu Leu Phe Asn Cys Thr Ser Gly Ser Phe Val Asp Leu Lys
       2115                2120                2125

Ala Leu Asn Glu Lys Leu Asn Arg Asn Glu Thr Arg Met Asp Gly Asn
   2130                2135                2140

Arg Ser Leu Arg Leu Ala Lys Ala Leu Arg Asn Ala Thr Gln Gly Asn
2145                2150                2155                2160

Ser Thr Leu Phe Gly Asn Asp Val Arg Thr Ala Tyr Gln Leu Leu Ala
               2165                2170                2175

Arg Ile Leu Gln His Glu Ser Arg Gln Gln Gly Phe Asp Leu Ala Ala
          2180                2185                2190

Thr Arg Glu Ala Asn Phe His Glu Asp Val Val His Thr Gly Ser Ala
       2195                2200                2205

Leu Leu Ala Pro Ala Thr Glu Ala Ser Trp Glu Gln Ile Gln Arg Ser
   2210                2215                2220

Glu Ala Gly Ala Ala Gln Leu Leu Arg His Phe Glu Ala Tyr Phe Ser
2225                2230                2235                2240

Asn Val Ala Arg Asn Val Lys Arg Thr Tyr Leu Arg Pro Phe Val Ile
               2245                2250                2255

Val Thr Ala Asn Met Ile Leu Ala Val Asp Ile Phe Asp Lys Leu Asn
          2260                2265                2270

Phe Thr Gly Ala Gln Val Pro Arg Phe Glu Asp Ile Gln Glu Glu Leu
       2275                2280                2285

Pro Arg Glu Leu Glu Ser Ser Val Ser Phe Pro Ala Asp Thr Phe Lys
   2290                2295                2300

Pro Pro Glu Lys Lys Glu Gly Pro Val Val Arg Leu Thr Asn Arg Arg
2305                2310                2315                2320
```

Thr Thr Pro Leu Thr Ala Gln Pro Glu Pro Arg Ala Glu Arg Glu Thr
2325 2330 2335

Ser Ser Ser Arg Arg Arg Arg His Pro Asp Glu Pro Gly Gln Phe Ala
2340 2345 2350

Val Ala Leu Val Val Ile Tyr Arg Thr Leu Gly Gln Leu Leu Pro Glu
2355 2360 2365

His Tyr Asp Pro Asp His Arg Ser Leu Arg Leu Pro Asn Arg Pro Val
2370 2375 2380

Ile Asn Thr Pro Val Val Ser Ala Met Val Tyr Ser Glu Gly Thr Pro
2385 2390 2395 2400

Leu Pro Ser Ser Leu Gln Arg Pro Ile Leu Val Glu Phe Ser Leu Leu
2405 2410 2415

Glu Thr Glu Glu Arg Ser Lys Pro Val Cys Val Phe Trp Asn His Ser
2420 2425 2430

Leu Asp Thr Gly Gly Thr Gly Gly Trp Ser Ala Lys Gly Cys Glu Leu
2435 2440 2445

Leu Ser Arg Asn Arg Thr His Val Thr Cys Gln Cys Ser His Ser Ala
2450 2455 2460

Ser Cys Ala Val Leu Met Asp Ile Ser Arg Arg Glu His Gly Glu Val
2465 2470 2475 2480

Leu Pro Leu Lys Ile Ile Thr Tyr Ala Ala Leu Ser Leu Ser Leu Val
2485 2490 2495

Ala Leu Leu Val Ala Phe Val Leu Leu Ser Leu Val Arg Thr Leu Arg
2500 2505 2510

Ser Asn Leu His Ser Ile His Lys Asn Leu Ile Ala Ala Leu Phe Phe
2515 2520 2525

Ser Gln Leu Ile Phe Met Val Gly Ile Asn Gln Thr Glu Asn Pro Phe
2530 2535 2540

Leu Cys Thr Val Val Ala Ile Leu Leu His Tyr Val Ser Met Gly Thr
2545 2550 2555 2560

Phe Ala Trp Thr Leu Val Glu Asn Leu His Val Tyr Arg Met Leu Thr
2565 2570 2575

Glu Val Arg Asn Ile Asp Thr Gly Pro Met Arg Phe Tyr His Val Val
2580 2585 2590

Gly Trp Gly Ile Pro Ala Ile Val Thr Gly Leu Ala Val Gly Leu Asp
2595 2600 2605

Pro Gln Gly Tyr Gly Asn Pro Asp Phe Cys Trp Leu Ser Leu Gln Asp
2610 2615 2620

```
Thr Leu Ile Trp Ser Phe Ala Gly Pro Val Gly Thr Val Ile Ile Ile
2625                2630                2635                2640

Asn Thr Val Ile Phe Val Leu Ser Ala Lys Val Ser Cys Gln Arg Lys
                2645                2650                2655

His His Tyr Tyr Glu Arg Lys Gly Val Val Ser Met Leu Arg Thr Ala
            2660                2665                2670

Phe Leu Leu Leu Leu Leu Val Thr Ala Thr Trp Leu Leu Gly Leu Leu
        2675                2680                2685

Ala Val Asn Ser Asp Thr Leu Ser Phe His Tyr Leu Phe Ala Ala Phe
    2690                2695                2700

Ser Cys Leu Gln Gly Ile Phe Val Leu Leu Phe His Cys Val Ala His
2705                2710                2715                2720

Arg Glu Val Arg Lys His Leu Arg Ala Val Leu Ala Gly Lys Lys Leu
                2725                2730                2735

Gln Leu Asp Asp Ser Ala Thr Thr Arg Ala Thr Leu Leu Thr Arg Ser
            2740                2745                2750

Leu Asn Cys Asn Asn Thr Tyr Ser Glu Gly Pro Asp Met Leu Arg Thr
        2755                2760                2765

Ala Leu Gly Glu Ser Thr Ala Ser Leu Asp Ser Thr Thr Arg Asp Glu
    2770                2775                2780

Gly Val Gln Lys Leu Ser Val Ser Ser Gly Pro Ala Arg Gly Asn His
2785                2790                2795                2800

Gly Glu Pro Asp Thr Ser Phe Ile Pro Arg Asn Ser Lys Lys Ala His
                2805                2810                2815

Gly Pro Asp Ser Asp Ser Asp Ser Glu Leu Ser Leu Asp Glu His Ser
            2820                2825                2830

Ser Ser Tyr Ala Ser Ser His Thr Ser Asp Ser Glu Asp Asp Gly Gly
        2835                2840                2845

Glu Ala Glu Asp Lys Trp Asn Pro Ala Gly Gly Pro Ala His Ser Thr
    2850                2855                2860

Pro Lys Ala Asp Ala Leu Ala Asn His Val Pro Ala Gly Trp Pro Asp
2865                2870                2875                2880

Glu Ser Leu Ala Gly Ser Asp Ser Glu Glu Leu Asp Thr Glu Pro His
                2885                2890                2895

Leu Lys Val Glu Thr Lys Val Ser Val Glu Leu His Arg Gln Ala Gln
            2900                2905                2910

Gly Asn His Cys Gly Asp Arg Pro Ser Asp Pro Glu Ser Gly Val Leu
        2915                2920                2925
```

```
Ala Lys Pro Val Ala Val Leu Ser Ser Gln Pro Gln Glu Gln Arg Lys
   2930                2935                2940

Gly Ile Leu Lys Asn Lys Val Thr Tyr Pro Pro Pro Leu Pro Glu Gln
2945               2950                2955                2960

Pro Leu Lys Ser Arg Leu Arg Glu Lys Leu Ala Asp Cys Glu Gln Ser
               2965                2970                2975

Pro Thr Ser Ser Arg Thr Ser Ser Leu Gly Ser Gly Asp Gly Val His
           2980                2985                2990

Ala Thr Asp Cys Val Ile Thr Ile Lys Thr Pro Arg Arg Glu Pro Gly
       2995                3000                3005

Arg Glu His Leu Asn Gly Val Ala Met Asn Val Arg Thr Gly Ser Ala
   3010                3015                3020

Gln Ala Asn Gly Ser Asp Ser Glu Lys Pro
3025               3030
```

<210> 71
<211> 262
<212> PRT
<213> Homo sapiens

<400> 71

```
Gly Thr Gly Arg Glu Leu Val Gly Ile Thr Gly Gly Cys Asp Val Ser
  1               5                  10                  15

Ala Arg Arg His Pro Trp Gln Val Ser Leu Arg Phe Tyr Ser Met Lys
             20                  25                  30

Lys Gly Leu Trp Glu Pro Ile Cys Gly Gly Ser Leu Ile His Pro Glu
         35                  40                  45

Trp Val Leu Thr Ala Ala His Cys Leu Gly Pro Glu Glu Leu Glu Ala
     50                  55                  60

Cys Ala Phe Arg Val Gln Val Gly Gln Leu Arg Leu Tyr Glu Asp Asp
 65                  70                  75                  80

Gln Arg Thr Lys Val Val Glu Ile Val Arg His Pro Gln Tyr Asn Glu
                 85                  90                  95

Ser Leu Ser Ala Gln Gly Gly Ala Asp Ile Ala Leu Leu Lys Leu Glu
            100                 105                 110

Ala Pro Val Pro Leu Ser Glu Leu Ile His Pro Val Ser Leu Pro Ser
        115                 120                 125

Ala Ser Leu Asp Val Pro Ser Gly Lys Thr Cys Trp Val Thr Gly Trp
    130                 135                 140

Gly Val Ile Gly Arg Gly Glu Leu Leu Pro Trp Pro Leu Ser Leu Trp
```

```
145                 150                 155                 160

Glu Ala Thr Val Lys Val Arg Ser Asn Val Leu Cys Asn Gln Thr Cys
                165                 170                 175

Arg Arg Arg Phe Pro Ser Asn His Thr Glu Arg Phe Glu Arg Leu Ile
            180                 185                 190

Lys Asp Asp Met Leu Cys Ala Gly Asp Glu Arg His Leu Ser Pro Gln
        195                 200                 205

Gly Asp Asn Gly Gly Pro Leu Leu Cys Arg Arg Asn Cys Thr Trp Val
    210                 215                 220

Gln Val Glu Val Val Ser Trp Gly Lys Leu Cys Gly Leu Arg Gly Tyr
225                 230                 235                 240

Pro Gly Met Tyr Thr Arg Val Thr Ser Tyr Val Ser Trp Ile Arg Gln
                245                 250                 255

Tyr Val Pro Pro Phe Pro
            260
```

<210> 72
<211> 256
<212> PRT
<213> Canis familiaris

<400> 72

```
Gly Thr Leu Ser Pro Lys Val Gly Ile Val Gly Gly Cys Lys Val Pro
  1               5                  10                  15

Ala Arg Arg Tyr Pro Trp Gln Val Ser Leu Arg Phe His Gly Met Gly
             20                  25                  30

Ser Gly Gln Trp Gln His Ile Cys Gly Gly Ser Leu Ile His Pro Gln
         35                  40                  45

Trp Val Leu Thr Ala Ala His Cys Val Glu Leu Glu Gly Leu Glu Ala
     50                  55                  60

Ala Thr Leu Arg Val Gln Val Gly Gln Leu Arg Leu Tyr Asp His Asp
 65                  70                  75                  80

Gln Leu Cys Asn Val Thr Glu Ile Ile Arg His Pro Asn Phe Asn Met
                 85                  90                  95

Ser Trp Tyr Gly Trp Asp Thr Ala Asp Ile Ala Leu Leu Lys Leu Glu
            100                 105                 110

Ala Pro Leu Thr Leu Ser Glu Asp Val Asn Leu Val Ser Leu Pro Ser
        115                 120                 125

Pro Ser Leu Ile Val Pro Pro Gly Met Leu Cys Trp Val Thr Gly Trp
    130                 135                 140
```

```
Gly Asp Ile Ala Asp His Thr Pro Leu Pro Pro Pro Tyr His Leu Gln
145                 150                 155                 160

Glu Val Glu Val Pro Ile Val Gly Asn Arg Glu Cys Asn Cys His Tyr
                165                 170                 175

Gln Thr Ile Leu Glu Gln Asp Asp Glu Val Ile Lys Gln Asp Met Leu
            180                 185                 190

Cys Ala Gly Ser Glu Gly His Asp Ser Cys Gln Met Asp Ser Gly Gly
        195                 200                 205

Pro Leu Val Cys Arg Trp Lys Cys Thr Trp Ile Gln Val Gly Val Val
    210                 215                 220

Ser Trp Gly Tyr Gly Cys Gly Tyr Asn Leu Pro Gly Val Tyr Ala Arg
225                 230                 235                 240

Val Thr Ser Tyr Val Ser Trp Ile His Gln His Ile Pro Leu Ser Pro
                245                 250                 255
```

<210> 73
<211> 263
<212> PRT
<213> Homo sapiens

<400> 73

```
Pro Gly Thr Gly Arg Glu Leu Val Gly Ile Thr Gly Gly Cys Asp Val
  1               5                  10                  15

Ser Ala Arg Arg His Pro Trp Gln Val Ser Leu Arg Phe Tyr Ser Met
             20                  25                  30

Lys Lys Gly Leu Trp Glu Pro Ile Cys Gly Gly Ser Leu Ile His Pro
         35                  40                  45

Glu Trp Val Leu Thr Ala Ala His Cys Leu Gly Pro Glu Glu Leu Glu
     50                  55                  60

Ala Cys Ala Phe Arg Val Gln Val Gly Gln Leu Arg Leu Tyr Glu Asp
 65                  70                  75                  80

Asp Gln Arg Thr Lys Val Val Glu Ile Val Arg His Pro Gln Tyr Asn
                 85                  90                  95

Glu Ser Leu Ser Ala Gln Gly Gly Ala Asp Ile Ala Leu Leu Lys Leu
            100                 105                 110

Glu Ala Pro Val Pro Leu Ser Glu Leu Ile His Pro Val Ser Leu Pro
        115                 120                 125

Ser Ala Ser Leu Asp Val Pro Ser Gly Lys Thr Cys Trp Val Thr Gly
    130                 135                 140
```

```
Trp Gly Val Ile Gly Arg Gly Glu Leu Leu Pro Trp Pro Leu Ser Leu
145                 150                 155                 160

Trp Glu Ala Thr Val Lys Val Arg Ser Asn Val Leu Cys Asn Gln Thr
                165                 170                 175

Cys Arg Arg Arg Phe Pro Ser Asn His Thr Glu Arg Phe Glu Arg Leu
            180                 185                 190

Ile Lys Asp Asp Met Leu Cys Ala Gly Asp Glu Arg His Leu Ser Pro
        195                 200                 205

Gln Gly Asp Asn Gly Gly Pro Leu Leu Cys Arg Arg Asn Cys Thr Trp
    210                 215                 220

Val Gln Val Glu Val Val Ser Trp Gly Lys Leu Cys Gly Leu Arg Gly
225                 230                 235                 240

Tyr Pro Gly Met Tyr Thr Arg Val Thr Ser Tyr Val Ser Trp Ile Arg
                245                 250                 255

Gln Tyr Val Pro Pro Phe Pro
            260
```

<210> 74
<211> 254
<212> PRT
<213> Homo sapiens

<400> 74

```
Pro Gly Gln Ala Leu Gln Arg Val Gly Ile Val Gly Gly Gln Glu Ala
  1               5                  10                  15

Pro Arg Ser Lys Trp Pro Trp Gln Val Ser Leu Arg Val His Gly Pro
             20                  25                  30

Tyr Trp Met His Phe Cys Gly Gly Ser Leu Ile His Pro Gln Trp Val
         35                  40                  45

Leu Thr Ala Ala His Cys Val Gly Pro Asp Val Lys Asp Leu Ala Ala
     50                  55                  60

Leu Arg Val Gln Leu Arg Glu Gln His Leu Tyr Tyr Gln Asp Gln Leu
 65                  70                  75                  80

Leu Pro Val Ser Arg Ile Ile Val His Pro Gln Phe Tyr Thr Ala Gln
                 85                  90                  95

Ile Gly Ala Asp Ile Ala Leu Leu Glu Leu Glu Glu Pro Val Lys Val
            100                 105                 110

Ser Ser His Val His Thr Val Thr Leu Pro Pro Ala Ser Glu Thr Phe
        115                 120                 125

Pro Pro Gly Met Pro Cys Trp Val Thr Gly Trp Gly Asp Val Asp Asn
```

```
    130                 135                 140

Asp Glu Arg Leu Pro Pro Pro Phe Pro Leu Lys Gln Val Lys Val Pro
145                 150                 155                 160

Ile Met Glu Asn His Ile Cys Asp Ala Lys Tyr His Leu Gly Ala Tyr
                165                 170                 175

Thr Gly Asp Asp Val Arg Ile Val Arg Asp Asp Met Leu Cys Ala Gly
            180                 185                 190

Asn Thr Arg Arg Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu Val
        195                 200                 205

Cys Lys Val Asn Gly Thr Trp Leu Gln Ala Gly Val Val Ser Trp Gly
    210                 215                 220

Glu Gly Cys Ala Gln Pro Asn Arg Pro Gly Ile Tyr Thr Arg Val Thr
225                 230                 235                 240

Tyr Tyr Leu Asp Trp Ile His His Tyr Val Pro Lys Lys Pro
                245                 250
```

<210> 75
<211> 334
<212> DNA
<213> Homo sapiens

<400> 75
agaacgccgt gcgccacaac ctcagcctgc acaagtgctt cgtccgcgtg gagaacgtca 60
agggtgccgt gtggactgtg gacgagcggg agtatcagaa gcggagaccg ccaaagatga 120
cagggtatgt gggtccagag ctggatgggc tgtacctgcc caggggcag gagccaactc 180
acccccaccc cctacctctc cagggtacac atgtgcacca gatccttcct ggctggggga 240
aggggtgtgg ggagaaagga gcagaggaga ctagtgcttg gggacagggg gctggaatcc 300
ggaagtgatg gataatcaga aggcagacat ttat 334

<210> 76
<211> 334
<212> DNA
<213> Homo sapiens

<400> 76
agaacgccgt gcgccacaac ctcagcctgc acaagtgctt cgtccgcgtg gagaacgtca 60
agggtgccgt gtggactgtg gacgagcggg agtatcagaa gcggagaccg ccaaagatga 120
cagggtatgt gggtccagag ctggatgggc tgtacctgcc caggggcag gagccaactc 180
acccccaccc cctacctctc cagggtacac atgtgcacca gatccttcct ggctggggga 240
aggggtgtgg ggagaaagga gcagaggaga ctagtgcttg gggacagggg gctggaatcc 300
ggaagtgatg gataatcaga aggcagacat ttat 334

<210> 77
<211> 84
<212> PRT
<213> Homo sapiens

<400> 77
Arg Pro Pro Phe Thr Tyr Ala Ser Leu Ile Arg Gln Ala Ile Leu Glu
1 5 10 15

Thr Pro Asp Arg Gln Leu Thr Leu Asn Glu Ile Tyr Asn Trp Phe Thr
20 25 30

Arg Met Phe Ala Tyr Phe Arg Arg Asn Thr Ala Thr Trp Lys Asn Ala
35 40 45

Val Arg His Asn Leu Ser Leu His Lys Cys Phe Val Arg Val Glu Asn
50 55 60

Val Lys Gly Ala Val Trp Thr Val Asp Glu Arg Glu Tyr Gln Lys Arg
65 70 75 80

Arg Pro Pro Lys

<210> 78
<211> 84
<212> PRT
<213> Homo sapiens

<400> 78
Arg Pro Pro Phe Thr Tyr Ala Ser Leu Ile Arg Gln Ala Ile Leu Glu
1 5 10 15

Ser Pro Glu Lys Gln Leu Thr Leu Asn Glu Ile Tyr Asn Trp Phe Thr
20 25 30

Arg Met Phe Ala Tyr Phe Arg Arg Asn Ala Ala Thr Trp Lys Asn Ala
35 40 45

Val Arg His Asn Leu Ser Leu His Lys Cys Phe Val Arg Val Glu Asn
50 55 60

Val Lys Gly Ala Val Trp Thr Val Asp Asp Val Glu Phe Gln Lys Arg
65 70 75 80

Arg Pro Gln Lys

<210> 79
<211> 105
<212> PRT
<213> Homo sapiens

<400> 79
Tyr Ala Met Tyr Thr Asn Ser Ser Ser Tyr Gln Thr Gly Pro Asn His
1 5 10 15

Glu Phe Tyr Lys Asn Ala Asp Val Arg Pro Pro Phe Thr Tyr Ala Ser
20 25 30

```
Leu Ile Arg Gln Ala Ile Leu Glu Thr Pro Asp Arg Gln Leu Thr Leu
         35                  40                  45

Asn Glu Ile Tyr Asn Trp Phe Thr Arg Met Phe Ala Tyr Phe Arg Arg
     50                  55                  60

Asn Thr Ala Thr Trp Lys Asn Ala Val Arg His Asn Leu Ser Leu His
 65                  70                  75                  80

Lys Cys Phe Val Arg Val Glu Asn Val Lys Gly Ala Val Trp Thr Val
                 85                  90                  95

Asp Glu Arg Glu Tyr Gln Lys Arg Arg
            100                 105


<210> 80
<211> 105
<212> PRT
<213> Mus musculus

<400> 80
Trp Gly Ser His Gly Asn Ser Ser Phe Pro Glu Phe Phe His Asn Met
  1               5                  10                  15

Asp Tyr Phe Lys Tyr His Asn Met Arg Pro Pro Phe Thr Tyr Ala Thr
             20                  25                  30

Leu Ile Arg Trp Ala Ile Leu Glu Ala Pro Glu Arg Gln Arg Thr Leu
         35                  40                  45

Asn Glu Ile Tyr His Trp Phe Thr Arg Met Phe Ala Tyr Phe Arg Asn
     50                  55                  60

His Pro Ala Thr Trp Lys Asn Ala Ile Arg His Asn Leu Ser Leu His
 65                  70                  75                  80

Lys Cys Phe Val Arg Val Glu Ser Glu Lys Gly Ala Val Trp Thr Val
                 85                  90                  95

Asp Glu Phe Glu Phe Arg Lys Lys Arg
            100                 105


<210> 81
<211> 174
<212> DNA
<213> Homo sapiens

<400> 81
cccgtccccg agaatgacct ggtgggcatt gtgggggccc acaacaccca ggggaagtgg 60
tcgtggcagg tcagcctgag gatctatagc taccactggg cctcctgggt gcccatctgc 120
gggggctccc tcatccaccc ccagtgggtg ctgaccgccg ctcactgcat tttc       174


<210> 82
<211> 177
```

<212> DNA
<213> Homo sapiens

<400> 82
cccgtcccag agaatgacct ggtgggcatt gtgggggccc acaatgcccc cccggggaag 60
tggccgtggc aggtcagcct gagggtctac agctaccact gggcctcctg ggcgcacatc 120
tgtgggggct ccctcatcca cccccagtgg gtgctgactg ctgcccactg cattttc 177

<210> 83
<211> 267
<212> PRT
<213> Homo sapiens

<400> 83
Leu Leu Leu Leu Phe Leu Ala Val Ser Ser Leu Gly Ser Cys Ser Thr
1 5 10 15

Gly Ser Pro Ala Pro Val Pro Glu Asn Asp Leu Val Gly Ile Val Gly
20 25 30

Gly His Asn Thr Gln Gly Lys Trp Ser Trp Gln Val Ser Leu Arg Ile
35 40 45

Tyr Ser Tyr His Trp Ala Ser Trp Val Pro Ile Cys Gly Gly Ser Leu
50 55 60

Ile His Pro Gln Trp Val Leu Thr Ala Ala His Cys Ile Phe Arg Lys
65 70 75 80

Asp Thr Asp Pro Ser Thr Tyr Arg Ile His Thr Arg Asp Val Tyr Leu
85 90 95

Tyr Gly Gly Arg Gly Leu Leu Asn Val Ser Gln Ile Val Val His Pro
100 105 110

Asn Tyr Ser Val Phe Phe Leu Gly Ala Asp Ile Ala Leu Leu Lys Leu
115 120 125

Ala Thr Ser Val Arg Thr Thr Asn Thr Leu Ala Ala Val Ala Leu Pro
130 135 140

Ser Leu Ser Leu Glu Phe Thr Asp Ser Asp Asn Cys Trp Asn Thr Gly
145 150 155 160

Trp Gly Met Val Gly Leu Leu Asp Met Leu Pro Pro Pro Tyr Arg Pro
165 170 175

Gln Gln Val Lys Val Leu Thr Leu Ser Asn Ala Asp Cys Glu Arg Gln
180 185 190

Thr Tyr Asp Ala Phe Pro Gly Ala Gly Asp Arg Lys Phe Ile Gln Asp
195 200 205

Asp Met Ile Cys Ala Gly Arg Thr Gly Arg Arg Thr Trp Lys Gly Asp
210 215 220

```
Ser Gly Gly Pro Leu Val Cys Lys Lys Lys Gly Thr Trp Leu Gln Ala
225                 230                 235                 240

Gly Val Val Ser Trp Gly Phe Tyr Ser Asp Arg Pro Ser Ile Gly Val
                245                 250                 255

Tyr Thr Trp Val Gln Thr Tyr Val Pro Trp Ile
            260                 265
```

<210> 84
<211> 266
<212> PRT
<213> Homo sapiens

<400> 84

```
Leu Asn Leu Leu Leu Leu Ala Leu Pro Val Leu Ala Ser Arg Ala Tyr
  1               5                  10                  15

Ala Ala Pro Ala Pro Gly Gln Ala Leu Gln Arg Val Gly Ile Val Gly
             20                  25                  30

Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro Trp Gln Val Ser Leu Arg
         35                  40                  45

Val His Gly Pro Tyr Trp Met His Phe Cys Gly Gly Ser Leu Ile His
     50                  55                  60

Pro Gln Trp Val Leu Thr Ala Ala His Cys Val Gly Pro Asp Val Lys
 65                  70                  75                  80

Asp Leu Ala Ala Leu Arg Val Gln Leu Arg Glu Gln His Leu Tyr Tyr
                 85                  90                  95

Gln Asp Gln Leu Leu Pro Val Ser Arg Ile Ile Val His Pro Gln Phe
            100                 105                 110

Tyr Thr Ala Gln Ile Gly Ala Asp Ile Ala Leu Leu Glu Leu Glu Glu
        115                 120                 125

Pro Val Lys Val Ser Ser His Val His Thr Val Thr Leu Pro Pro Ala
    130                 135                 140

Ser Glu Thr Phe Pro Pro Gly Met Pro Cys Trp Val Thr Gly Trp Gly
145                 150                 155                 160

Asp Val Asp Asn Asp Glu Arg Leu Pro Pro Pro Phe Pro Leu Lys Gln
                165                 170                 175

Val Lys Val Pro Ile Met Glu Asn His Ile Cys Asp Ala Lys Tyr His
            180                 185                 190

Leu Gly Ala Tyr Thr Gly Asp Asp Val Arg Ile Val Arg Asp Asp Met
        195                 200                 205

Leu Cys Ala Gly Asn Thr Arg Arg Asp Ser Cys Gln Gly Asp Ser Gly
    210                 215                 220
```

```
Gly Pro Leu Val Cys Lys Val Asn Gly Thr Trp Leu Gln Ala Gly Val
225                 230                 235                 240

Val Ser Trp Gly Glu Gly Cys Ala Gln Pro Asn Arg Pro Gly Ile Tyr
                245                 250                 255

Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile
            260                 265
```

<210> 85
<211> 248
<212> PRT
<213> Homo sapiens

<400> 85

```
Ala Pro Val Pro Glu Asn Asp Leu Val Gly Ile Val Gly Gly His Asn
  1               5                  10                  15

Thr Gln Gly Lys Trp Ser Trp Gln Val Ser Leu Arg Ile Tyr Ser Tyr
             20                  25                  30

His Trp Ala Ser Trp Val Pro Ile Cys Gly Gly Ser Leu Ile His Pro
         35                  40                  45

Gln Trp Val Leu Thr Ala Ala His Cys Ile Phe Arg Lys Asp Thr Asp
     50                  55                  60

Pro Ser Thr Tyr Arg Ile His Thr Arg Asp Val Tyr Leu Tyr Gly Gly
 65                  70                  75                  80

Arg Gly Leu Leu Asn Val Ser Gln Ile Val Val His Pro Asn Tyr Ser
                 85                  90                  95

Val Phe Phe Leu Gly Ala Asp Ile Ala Leu Leu Lys Leu Ala Thr Ser
            100                 105                 110

Val Arg Thr Thr Asn Thr Leu Ala Ala Val Ala Leu Pro Ser Leu Ser
        115                 120                 125

Leu Glu Phe Thr Asp Ser Asp Asn Cys Trp Asn Thr Gly Trp Gly Met
    130                 135                 140

Val Gly Leu Leu Asp Met Leu Pro Pro Pro Tyr Arg Pro Gln Gln Val
145                 150                 155                 160

Lys Val Leu Thr Leu Ser Asn Ala Asp Cys Glu Arg Gln Thr Tyr Asp
                165                 170                 175

Ala Phe Pro Gly Ala Gly Asp Arg Lys Phe Ile Gln Asp Asp Met Ile
            180                 185                 190

Cys Ala Gly Arg Thr Gly Arg Arg Thr Trp Lys Gly Asp Ser Gly Gly
        195                 200                 205

Pro Leu Val Cys Lys Lys Lys Gly Thr Trp Leu Gln Ala Gly Val Val
```

```
    210                 215                 220

Ser Trp Gly Phe Tyr Ser Asp Arg Pro Ser Ile Gly Val Tyr Thr Trp
225                 230                 235                 240

Val Gln Thr Tyr Val Pro Trp Ile
                245
```

<210> 86
<211> 247
<212> PRT
<213> Mus musculus

<400> 86

```
Ala Pro Arg Pro Ala Asn Gln Arg Val Gly Ile Val Gly Gly His Glu
  1               5                  10                  15

Ala Ser Glu Ser Lys Trp Pro Trp Gln Val Ser Leu Arg Phe Lys Leu
             20                  25                  30

Asn Tyr Trp Ile His Phe Cys Gly Gly Ser Leu Ile His Pro Gln Trp
         35                  40                  45

Val Leu Thr Ala Ala His Cys Val Gly Pro His Ile Lys Ser Pro Gln
     50                  55                  60

Leu Phe Arg Val Gln Leu Arg Glu Gln Tyr Leu Tyr Tyr Gly Asp Gln
 65                  70                  75                  80

Leu Leu Ser Leu Asn Arg Ile Val Val His Pro His Tyr Tyr Thr Ala
                 85                  90                  95

Glu Gly Gly Ala Asp Val Ala Leu Leu Glu Leu Glu Val Pro Val Asn
            100                 105                 110

Val Ser Thr His Ile His Pro Ile Ser Leu Pro Pro Ala Ser Glu Thr
        115                 120                 125

Phe Pro Pro Gly Thr Ser Cys Trp Val Thr Gly Trp Gly Asp Ile Asp
    130                 135                 140

Asn Asp Glu Pro Leu Pro Pro Pro Tyr Pro Leu Lys Gln Val Lys Val
145                 150                 155                 160

Pro Ile Val Glu Asn Ser Leu Cys Asp Arg Lys Tyr His Thr Gly Leu
                165                 170                 175

Tyr Thr Gly Asp Asp Phe Pro Ile Val His Asp Gly Met Leu Cys Ala
            180                 185                 190

Gly Asn Thr Arg Arg Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro Leu
        195                 200                 205

Val Cys Lys Val Lys Gly Thr Trp Leu Gln Ala Gly Val Val Ser Trp
    210                 215                 220
```

```
Gly Glu Gly Cys Ala Gln Pro Asn Lys Pro Gly Ile Tyr Thr Arg Val
225                 230                 235                 240

Thr Tyr Tyr Leu Asp Trp Ile
                245
```

<210> 87
<211> 113
<212> DNA
<213> Homo sapiens

<400> 87
catctgtggg ggctccctca tccacccaga gtgggtgctg accgccgccc actgcctttt 60
tctgtggggg ctccctcatc cacccagagt gggtgctgac cgccgcccac tgc 113

<210> 88
<211> 113
<212> DNA
<213> Homo sapiens

<400> 88
catctgtggg ggctccctca tccaccccca gtgggtgctg actgctgccc actgcatttt 60
tctgcggggg ctccctcatc caccccccagt gggtgctgac cgcagcgcac tgc 113

<210> 89
<211> 261
<212> PRT
<213> Homo sapiens

<400> 89

```
Gly Thr Gly Arg Glu Leu Val Gly Ile Thr Gly Gly Cys Asp Val Ser
  1               5                  10                  15

Ala Arg Arg His Pro Trp Gln Val Ser Leu Arg Phe Tyr Ser Met Lys
             20                  25                  30

Lys Gly Leu Trp Glu Pro Ile Cys Gly Gly Ser Leu Ile His Pro Glu
         35                  40                  45

Trp Val Leu Thr Ala Ala His Cys Leu Leu Glu Glu Leu Glu Ala Cys
     50                  55                  60

Ala Phe Arg Val Gln Val Gly Gln Leu Arg Leu Tyr Glu Asp Asp Gln
 65                  70                  75                  80

Arg Thr Lys Val Val Glu Ile Val Arg His Pro Gln Tyr Asn Glu Ser
                 85                  90                  95

Leu Ser Ala Gln Gly Gly Ala Asp Ile Ala Leu Leu Lys Leu Glu Ala
            100                 105                 110

Pro Val Pro Leu Ser Glu Leu Ile His Pro Val Ser Leu Pro Ser Ala
        115                 120                 125
```

```
Ser Leu Asp Val Pro Ser Gly Lys Thr Cys Trp Val Thr Gly Trp Gly
    130                 135                 140

Val Ile Gly Arg Gly Glu Leu Leu Pro Trp Pro Leu Ser Leu Trp Glu
145                 150                 155                 160

Ala Thr Val Lys Val Arg Ser Asn Val Leu Cys Asn Gln Thr Cys Arg
                165                 170                 175

Arg Arg Phe Pro Ser Asn His Thr Glu Arg Phe Glu Arg Leu Ile Lys
            180                 185                 190

Asp Asp Met Leu Cys Ala Gly Asp Gly Asn His Gly Ser Trp Pro Gly
        195                 200                 205

Asp Asn Gly Gly Pro Leu Leu Cys Arg Arg Asn Cys Thr Trp Val Gln
    210                 215                 220

Val Glu Val Val Ser Trp Gly Lys Leu Cys Gly Leu Arg Gly Tyr Pro
225                 230                 235                 240

Gly Met Tyr Thr Arg Val Thr Ser Tyr Val Ser Trp Ile Arg Gln Tyr
                245                 250                 255

Val Pro Pro Phe Pro
            260
```

<210> 90
<211> 256
<212> PRT
<213> Canis familiaris

<400> 90

```
Gly Thr Leu Ser Pro Lys Val Gly Ile Val Gly Gly Cys Lys Val Pro
  1               5                  10                  15

Ala Arg Arg Tyr Pro Trp Gln Val Ser Leu Arg Phe His Gly Met Gly
             20                  25                  30

Ser Gly Gln Trp Gln His Ile Cys Gly Gly Ser Leu Ile His Pro Gln
         35                  40                  45

Trp Val Leu Thr Ala Ala His Cys Val Glu Leu Glu Gly Leu Glu Ala
     50                  55                  60

Ala Thr Leu Arg Val Gln Val Gly Gln Leu Arg Leu Tyr Asp His Asp
 65                  70                  75                  80

Gln Leu Cys Asn Val Thr Glu Ile Ile Arg His Pro Asn Phe Asn Met
                 85                  90                  95

Ser Trp Tyr Gly Trp Asp Thr Ala Asp Ile Ala Leu Leu Lys Leu Glu
            100                 105                 110

Ala Pro Leu Thr Leu Ser Glu Asp Val Asn Leu Val Ser Leu Pro Ser
        115                 120                 125
```

```
Pro Ser Leu Ile Val Pro Pro Gly Met Leu Cys Trp Val Thr Gly Trp
    130                 135                 140

Gly Asp Ile Ala Asp His Thr Pro Leu Pro Pro Pro Tyr His Leu Gln
145                 150                 155                 160

Glu Val Glu Val Pro Ile Val Gly Asn Arg Glu Cys Asn Cys His Tyr
                165                 170                 175

Gln Thr Ile Leu Glu Gln Asp Asp Glu Val Ile Lys Gln Asp Met Leu
            180                 185                 190

Cys Ala Gly Ser Glu Gly His Asp Ser Cys Gln Met Asp Ser Gly Gly
        195                 200                 205

Pro Leu Val Cys Arg Trp Lys Cys Thr Trp Ile Gln Val Gly Val Val
    210                 215                 220

Ser Trp Gly Tyr Gly Cys Gly Tyr Asn Leu Pro Gly Val Tyr Ala Arg
225                 230                 235                 240

Val Thr Ser Tyr Val Ser Trp Ile His Gln His Ile Pro Leu Ser Pro
                245                 250                 255
```

<210> 91
<211> 264
<212> PRT
<213> Homo sapiens

<400> 91

```
Pro Gly Glu Gly Thr Gly Arg Glu Leu Val Gly Ile Thr Gly Gly Cys
  1               5                  10                  15

Asp Val Ser Ala Arg Arg His Pro Trp Gln Val Ser Leu Arg Phe Tyr
            20                  25                  30

Ser Met Lys Lys Gly Leu Trp Glu Pro Ile Cys Gly Gly Ser Leu Ile
        35                  40                  45

His Pro Glu Trp Val Leu Thr Ala Ala His Cys Leu Leu Glu Glu Leu
    50                  55                  60

Glu Ala Cys Ala Phe Arg Val Gln Val Gly Gln Leu Arg Leu Tyr Glu
65                  70                  75                  80

Asp Asp Gln Arg Thr Lys Val Val Glu Ile Val Arg His Pro Gln Tyr
                85                  90                  95

Asn Glu Ser Leu Ser Ala Gln Gly Gly Ala Asp Ile Ala Leu Leu Lys
            100                 105                 110

Leu Glu Ala Pro Val Pro Leu Ser Glu Leu Ile His Pro Val Ser Leu
```

```
        115                 120                 125

Pro Ser Ala Ser Leu Asp Val Pro Ser Gly Lys Thr Cys Trp Val Thr
    130                 135                 140

Gly Trp Gly Val Ile Gly Arg Gly Glu Leu Leu Pro Trp Pro Leu Ser
145                 150                 155                 160

Leu Trp Glu Ala Thr Val Lys Val Arg Ser Asn Val Leu Cys Asn Gln
                165                 170                 175

Thr Cys Arg Arg Arg Phe Pro Ser Asn His Thr Glu Arg Phe Glu Arg
            180                 185                 190

Leu Ile Lys Asp Asp Met Leu Cys Ala Gly Asp Gly Asn His Gly Ser
        195                 200                 205

Trp Pro Gly Asp Asn Gly Gly Pro Leu Leu Cys Arg Arg Asn Cys Thr
    210                 215                 220

Trp Val Gln Val Glu Val Val Ser Trp Gly Lys Leu Cys Gly Leu Arg
225                 230                 235                 240

Gly Tyr Pro Gly Met Tyr Thr Arg Val Thr Ser Tyr Val Ser Trp Ile
                245                 250                 255

Arg Gln Tyr Val Pro Pro Phe Pro
            260


<210> 92
<211> 256
<212> PRT
<213> Homo sapiens

<400> 92
Pro Ala Pro Gly Gln Ala Leu Gln Arg Val Gly Ile Val Gly Gly Gln
  1               5                  10                  15

Glu Ala Pro Arg Ser Lys Trp Pro Trp Gln Val Ser Leu Arg Val His
             20                  25                  30

Gly Pro Tyr Trp Met His Phe Cys Gly Gly Ser Leu Ile His Pro Gln
         35                  40                  45

Trp Val Leu Thr Ala Ala His Cys Val Gly Pro Asp Val Lys Asp Leu
     50                  55                  60

Ala Ala Leu Arg Val Gln Leu Arg Glu Gln His Leu Tyr Tyr Gln Asp
 65                  70                  75                  80

Gln Leu Leu Pro Val Ser Arg Ile Ile Val His Pro Gln Phe Tyr Thr
                 85                  90                  95

Ala Gln Ile Gly Ala Asp Ile Ala Leu Leu Glu Leu Glu Glu Pro Val
            100                 105                 110
```

```
Lys Val Ser Ser His Val His Thr Val Thr Leu Pro Pro Ala Ser Glu
        115                 120                 125

Thr Phe Pro Pro Gly Met Pro Cys Trp Val Thr Gly Trp Gly Asp Val
    130                 135                 140

Asp Asn Asp Glu Arg Leu Pro Pro Pro Phe Pro Leu Lys Gln Val Lys
145                 150                 155                 160

Val Pro Ile Met Glu Asn His Ile Cys Asp Ala Lys Tyr His Leu Gly
                165                 170                 175

Ala Tyr Thr Gly Asp Asp Val Arg Ile Val Arg Asp Asp Met Leu Cys
            180                 185                 190

Ala Gly Asn Thr Arg Arg Asp Ser Cys Gln Gly Asp Ser Gly Gly Pro
        195                 200                 205

Leu Val Cys Lys Val Asn Gly Thr Trp Leu Gln Ala Gly Val Val Ser
    210                 215                 220

Trp Gly Glu Gly Cys Ala Gln Pro Asn Arg Pro Gly Ile Tyr Thr Arg
225                 230                 235                 240

Val Thr Tyr Tyr Leu Asp Trp Ile His His Tyr Val Pro Lys Lys Pro
                245                 250                 255
```

<210> 93
<211> 125
<212> DNA
<213> Homo sapiens

<400> 93
gcggacatcg ccctgctgaa gctggaggcc ccggtgccgc tgtctgagct catccacccg 60
gtctcgctcc cgtctgcctc ccgggacgtg ccctcgggga agacctgctg ggtgaccggc 120
tgggg 125

<210> 94
<211> 125
<212> DNA
<213> Canis familiaris

<400> 94
gcggacatcg ccctgctgaa gctggaggcc cccctgacgc tctccgagga cgtcaacctg 60
gtgtccctcc cgtctccctc cctgattgtc cccccgggga tgctatgctg ggtgaccggc 120
tgggg 125

<210> 95
<211> 203
<212> PRT
<213> Homo sapiens

<400> 95
Glu Glu Leu Glu Ala Cys Ala Phe Arg Val Gln Val Gly Gln Leu Arg
1 5 10 15

Leu Tyr Glu Asp Asp Gln Arg Thr Lys Val Val Glu Ile Val Arg His
20 25 30

Pro Gln Tyr Asn Glu Ser Leu Ser Ala Gln Gly Gly Ala Asp Ile Ala
35 40 45

Leu Leu Lys Leu Glu Ala Pro Val Pro Leu Ser Glu Leu Ile His Pro
50 55 60

Val Ser Leu Pro Ser Ala Ser Arg Asp Val Pro Ser Gly Lys Thr Cys
65 70 75 80

Trp Val Thr Gly Trp Gly Val Ile Gly Arg Gly Glu Leu Leu Pro Trp
85 90 95

Pro Leu Ser Leu Trp Glu Ala Thr Val Lys Val Arg Ser Asn Val Leu
100 105 110

Cys Asn Gln Thr Cys Arg Arg Arg Phe Pro Ser Asn His Thr Glu Arg
115 120 125

Phe Glu Arg Leu Ile Lys Asp Asp Met Leu Cys Ala Gly Asp Gly Asn
130 135 140

His Gly Ser Trp Pro Gly Asp Asn Gly Gly Pro Leu Leu Cys Arg Arg
145 150 155 160

Asn Cys Thr Trp Val Gln Val Glu Val Val Ser Trp Gly Lys Leu Cys
165 170 175

Gly Leu Arg Gly Tyr Pro Gly Met Tyr Thr Arg Val Thr Ser Tyr Val
180 185 190

Ser Trp Ile Arg Gln Tyr Val Pro Pro Phe Pro
195 200

<210> 96
<211> 197
<212> PRT
<213> Canis familiaris

<400> 96
Glu Gly Leu Glu Ala Ala Thr Leu Arg Val Gln Val Gly Gln Leu Arg
1 5 10 15

Leu Tyr Asp His Asp Gln Leu Cys Asn Val Thr Glu Ile Ile Arg His
20 25 30

Pro Asn Phe Asn Met Ser Trp Tyr Gly Trp Asp Thr Ala Asp Ile Ala
35 40 45

```
Leu Leu Lys Leu Glu Ala Pro Leu Thr Leu Ser Glu Asp Val Asn Leu
     50                  55                  60

Val Ser Leu Pro Ser Pro Ser Leu Ile Val Pro Pro Gly Met Leu Cys
 65                  70                  75                  80

Trp Val Thr Gly Trp Gly Asp Ile Ala Asp His Thr Pro Leu Pro Pro
                 85                  90                  95

Pro Tyr His Leu Gln Glu Val Glu Val Pro Ile Val Gly Asn Arg Glu
            100                 105                 110

Cys Asn Cys His Tyr Gln Thr Ile Leu Glu Gln Asp Asp Glu Val Ile
        115                 120                 125

Lys Gln Asp Met Leu Cys Ala Gly Ser Glu Gly His Asp Ser Cys Gln
    130                 135                 140

Met Asp Ser Gly Gly Pro Leu Val Cys Arg Trp Lys Cys Thr Trp Ile
145                 150                 155                 160

Gln Val Gly Val Val Ser Trp Gly Tyr Gly Cys Gly Tyr Asn Leu Pro
                165                 170                 175

Gly Val Tyr Ala Arg Val Thr Ser Tyr Val Ser Trp Ile His Gln His
            180                 185                 190

Ile Pro Leu Ser Pro
        195
```

<210> 97
<211> 205
<212> PRT
<213> Homo sapiens

<400> 97

```
Gly Arg Glu Glu Leu Glu Ala Cys Ala Phe Arg Val Gln Val Gly Gln
  1               5                  10                  15

Leu Arg Leu Tyr Glu Asp Asp Gln Arg Thr Lys Val Val Glu Ile Val
             20                  25                  30

Arg His Pro Gln Tyr Asn Glu Ser Leu Ser Ala Gln Gly Gly Ala Asp
         35                  40                  45

Ile Ala Leu Leu Lys Leu Glu Ala Pro Val Pro Leu Ser Glu Leu Ile
     50                  55                  60

His Pro Val Ser Leu Pro Ser Ala Ser Arg Asp Val Pro Ser Gly Lys
 65                  70                  75                  80

Thr Cys Trp Val Thr Gly Trp Gly Val Ile Gly Arg Gly Glu Leu Leu
                 85                  90                  95

Pro Trp Pro Leu Ser Leu Trp Glu Ala Thr Val Lys Val Arg Ser Asn
            100                 105                 110
```

```
Val Leu Cys Asn Gln Thr Cys Arg Arg Arg Phe Pro Ser Asn His Thr
        115                 120                 125

Glu Arg Phe Glu Arg Leu Ile Lys Asp Asp Met Leu Cys Ala Gly Asp
    130                 135                 140

Gly Asn His Gly Ser Trp Pro Gly Asp Asn Gly Gly Pro Leu Leu Cys
145                 150                 155                 160

Arg Arg Asn Cys Thr Trp Val Gln Val Glu Val Val Ser Trp Gly Lys
                165                 170                 175

Leu Cys Gly Leu Arg Gly Tyr Pro Gly Met Tyr Thr Arg Val Thr Ser
            180                 185                 190

Tyr Val Ser Trp Ile Arg Gln Tyr Val Pro Pro Phe Pro
        195                 200                 205


<210> 98
<211> 199
<212> PRT
<213> Homo sapiens

<400> 98
Gly Pro Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu Arg Glu
  1               5                  10                  15

Gln His Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg Ile Ile
             20                  25                  30

Val His Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala Asp Ile Ala Leu
         35                  40                  45

Leu Glu Leu Glu Glu Pro Val Lys Val Ser Ser His Val His Thr Val
     50                  55                  60

Thr Leu Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met Pro Cys Trp
 65                  70                  75                  80

Val Thr Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro Pro Pro
                 85                  90                  95

Phe Pro Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His Ile Cys
            100                 105                 110

Asp Ala Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val Arg Ile
        115                 120                 125

Val Arg Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp Ser Cys
    130                 135                 140

Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Lys Val Asn Gly Thr Trp
145                 150                 155                 160

Leu Gln Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln Pro Asn
```

```
                165                 170                 175

Arg Pro Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile His
            180                 185                 190

His Tyr Val Pro Lys Lys Pro
        195
```

<210> 99
<211> 120
<212> DNA
<213> Homo sapiens

<400> 99
gccaggaggc acccctggca ggtcagcctg aggttctaca gcatgaagaa gggtctgtgg 60
gagcccatct gtgggggctc cctcatccac ccagagtggg tgctgaccgc cgcccactgc 120

<210> 100
<211> 120
<212> DNA
<213> Canis familiaris

<400> 100
gccaggaggt acccgtggca ggtcagcctg aggttccatg gcatgggtag cggccagtgg 60
cagcacatct gcggaggctc cctcatccac ccccagtggg tgctgaccgc ggcccactgc 120

<210> 101
<211> 262
<212> PRT
<213> Homo sapiens

<400> 101

```
Gly Thr Gly Arg Glu Leu Val Gly Ile Thr Gly Gly Cys Asp Val Ser
  1               5                  10                  15

Ala Arg Arg His Pro Trp Gln Val Ser Leu Arg Phe Tyr Ser Met Lys
             20                  25                  30

Lys Gly Leu Trp Glu Pro Ile Cys Gly Gly Ser Leu Ile His Pro Glu
         35                  40                  45

Trp Val Leu Thr Ala Ala His Cys Leu Gly Arg Glu Glu Leu Glu Ala
     50                  55                  60

Cys Ala Phe Arg Val Gln Val Gly Gln Leu Arg Leu Tyr Glu Asp Asp
 65                  70                  75                  80

Gln Arg Thr Lys Val Val Glu Ile Val Arg His Pro Gln Tyr Asn Glu
                 85                  90                  95

Ser Leu Ser Ala Gln Gly Gly Ala Asp Ile Ala Leu Leu Lys Leu Glu
            100                 105                 110

Ala Pro Val Pro Leu Ser Glu Leu Ile His Pro Val Ser Leu Pro Ser
```

```
        115                 120                 125

Ala Ser Arg Pro Gly Leu Gln Thr Arg Pro Gly Trp Leu Pro Ala Ala
    130                 135                 140

Ala Glu Thr Asp Gly Gln Glu Leu Leu Pro Trp Pro Leu Ser Leu Trp
145                 150                 155                 160

Glu Ala Thr Val Lys Val Arg Ser Asn Val Leu Cys Asn Gln Thr Cys
                165                 170                 175

Arg Arg Arg Phe Pro Ser Asn His Thr Glu Arg Phe Glu Arg Leu Ile
            180                 185                 190

Lys Asp Asp Met Leu Cys Ala Gly Asp Gly Asn His Gly Ser Trp Pro
        195                 200                 205

Gly Asp Asn Gly Gly Pro Leu Leu Cys Arg Arg Asn Cys Thr Trp Val
    210                 215                 220

Gln Val Glu Val Val Ser Trp Gly Lys Leu Cys Gly Leu Arg Gly Tyr
225                 230                 235                 240

Pro Gly Met Tyr Thr Arg Val Thr Ser Tyr Val Ser Trp Ile Arg Gln
                245                 250                 255

Tyr Val Pro Pro Phe Pro
            260


<210> 102
<211> 256
<212> PRT
<213> Canis familiaris

<400> 102
Gly Thr Leu Ser Pro Lys Val Gly Ile Val Gly Gly Cys Lys Val Pro
  1               5                  10                  15

Ala Arg Arg Tyr Pro Trp Gln Val Ser Leu Arg Phe His Gly Met Gly
             20                  25                  30

Ser Gly Gln Trp Gln His Ile Cys Gly Gly Ser Leu Ile His Pro Gln
         35                  40                  45

Trp Val Leu Thr Ala Ala His Cys Val Glu Leu Glu Gly Leu Glu Ala
     50                  55                  60

Ala Thr Leu Arg Val Gln Val Gly Gln Leu Arg Leu Tyr Asp His Asp
 65                  70                  75                  80

Gln Leu Cys Asn Val Thr Glu Ile Ile Arg His Pro Asn Phe Asn Met
                 85                  90                  95

Ser Trp Tyr Gly Trp Asp Thr Ala Asp Ile Ala Leu Leu Lys Leu Glu
            100                 105                 110
```

```
Ala Pro Leu Thr Leu Ser Glu Asp Val Asn Leu Val Ser Leu Pro Ser
        115                 120                 125

Pro Ser Leu Ile Val Pro Pro Gly Met Leu Cys Trp Val Thr Gly Trp
    130                 135                 140

Gly Asp Ile Ala Asp His Thr Pro Leu Pro Pro Pro Tyr His Leu Gln
145                 150                 155                 160

Glu Val Glu Val Pro Ile Val Gly Asn Arg Glu Cys Asn Cys His Tyr
                165                 170                 175

Gln Thr Ile Leu Glu Gln Asp Asp Glu Val Ile Lys Gln Asp Met Leu
            180                 185                 190

Cys Ala Gly Ser Glu Gly His Asp Ser Cys Gln Met Asp Ser Gly Gly
        195                 200                 205

Pro Leu Val Cys Arg Trp Lys Cys Thr Trp Ile Gln Val Gly Val Val
    210                 215                 220

Ser Trp Gly Tyr Gly Cys Gly Tyr Asn Leu Pro Gly Val Tyr Ala Arg
225                 230                 235                 240

Val Thr Ser Tyr Val Ser Trp Ile His Gln His Ile Pro Leu Ser Pro
                245                 250                 255
```

<210> 103
<211> 273
<212> PRT
<213> Homo sapiens

<400> 103

```
Met Gly Ser Gln Arg Cys Gln Gly Gly Gly Pro Gly Thr Gly Arg Glu
  1               5                  10                  15

Leu Val Gly Ile Thr Gly Gly Cys Asp Val Ser Ala Arg Arg His Pro
             20                  25                  30

Trp Gln Val Ser Leu Arg Phe Tyr Ser Met Lys Lys Gly Leu Trp Glu
         35                  40                  45

Pro Ile Cys Gly Gly Ser Leu Ile His Pro Glu Trp Val Leu Thr Ala
     50                  55                  60

Ala His Cys Leu Gly Arg Glu Glu Leu Glu Ala Cys Ala Phe Arg Val
 65                  70                  75                  80

Gln Val Gly Gln Leu Arg Leu Tyr Glu Asp Asp Gln Arg Thr Lys Val
                 85                  90                  95

Val Glu Ile Val Arg His Pro Gln Tyr Asn Glu Ser Leu Ser Ala Gln
            100                 105                 110
```

```
Gly Gly Ala Asp Ile Ala Leu Leu Lys Leu Glu Ala Pro Val Pro Leu
        115                 120                 125

Ser Glu Leu Ile His Pro Val Ser Leu Pro Ser Ala Ser Arg Pro Gly
    130                 135                 140

Leu Gln Thr Arg Pro Gly Trp Leu Pro Ala Ala Ala Glu Thr Asp Gly
145                 150                 155                 160

Gln Glu Leu Leu Pro Trp Pro Leu Ser Leu Trp Glu Ala Thr Val Lys
                165                 170                 175

Val Arg Ser Asn Val Leu Cys Asn Gln Thr Cys Arg Arg Arg Phe Pro
            180                 185                 190

Ser Asn His Thr Glu Arg Phe Glu Arg Leu Ile Lys Asp Asp Met Leu
        195                 200                 205

Cys Ala Gly Asp Gly Asn His Gly Ser Trp Pro Gly Asp Asn Gly Gly
    210                 215                 220

Pro Leu Leu Cys Arg Arg Asn Cys Thr Trp Val Gln Val Glu Val Val
225                 230                 235                 240

Ser Trp Gly Lys Leu Cys Gly Leu Arg Gly Tyr Pro Gly Met Tyr Thr
                245                 250                 255

Arg Val Thr Ser Tyr Val Ser Trp Ile Arg Gln Tyr Val Pro Pro Phe
            260                 265                 270

Pro
```

<210> 104
<211> 264
<212> PRT
<213> Homo sapiens

<400> 104

```
Leu Ala Ser Arg Ala Tyr Ala Ala Pro Ala Pro Gly Gln Ala Leu Gln
  1               5                  10                  15

Arg Val Gly Ile Val Gly Gly Gln Glu Ala Pro Arg Ser Lys Trp Pro
             20                  25                  30

Trp Gln Val Ser Leu Arg Val His Gly Pro Tyr Trp Met His Phe Cys
         35                  40                  45

Gly Gly Ser Leu Ile His Pro Gln Trp Val Leu Thr Ala Ala His Cys
     50                  55                  60

Val Gly Pro Asp Val Lys Asp Leu Ala Ala Leu Arg Val Gln Leu Arg
 65                  70                  75                  80

Glu Gln His Leu Tyr Tyr Gln Asp Gln Leu Leu Pro Val Ser Arg Ile
```

```
                85                  90                  95

Ile Val His Pro Gln Phe Tyr Thr Ala Gln Ile Gly Ala Asp Ile Ala
            100                 105                 110

Leu Leu Glu Leu Glu Glu Pro Val Lys Val Ser Ser His Val His Thr
        115                 120                 125

Val Thr Leu Pro Pro Ala Ser Glu Thr Phe Pro Pro Gly Met Pro Cys
    130                 135                 140

Trp Val Thr Gly Trp Gly Asp Val Asp Asn Asp Glu Arg Leu Pro Pro
145                 150                 155                 160

Pro Phe Pro Leu Lys Gln Val Lys Val Pro Ile Met Glu Asn His Ile
                165                 170                 175

Cys Asp Ala Lys Tyr His Leu Gly Ala Tyr Thr Gly Asp Asp Val Arg
            180                 185                 190

Ile Val Arg Asp Asp Met Leu Cys Ala Gly Asn Thr Arg Arg Asp Ser
        195                 200                 205

Cys Gln Gly Asp Ser Gly Gly Pro Leu Val Cys Lys Val Asn Gly Thr
    210                 215                 220

Trp Leu Gln Ala Gly Val Val Ser Trp Gly Glu Gly Cys Ala Gln Pro
225                 230                 235                 240

Asn Arg Pro Gly Ile Tyr Thr Arg Val Thr Tyr Tyr Leu Asp Trp Ile
                245                 250                 255

His His Tyr Val Pro Lys Lys Pro
            260
```

<210> 105
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
oligonucleotide primer

<400> 105
ctcgtcctcg agggtaagcc tatccctaac 30

<210> 106
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
oligonucleotide primer

<400> 106
ctcgtcgggc ccctgatcag cgggtttaaa c 31

<210> 107
<211> 36
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
oligonucleotide primer

<400> 107
ggatccacca tgagtgagct tgtaagagca agatcc 36

<210> 108
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
oligonucleotide primer

<400> 108
ctcgagtggt tgcgcatcac ctgcttccag cac 33

<210> 109
<211> 348
<212> DNA
<213> Homo sapiens

<400> 109
ctcgagtggt tgcgcatcac ctgcttccag cactttagtg agatcaaaag tgggcataat 60
accctccctg acatcaggac catctccagg ctcatcctct atcttaagca gagccagttc 120
ctgttgaaaa gcttccatgt caggcccttg aaaagcaggc actgcttgat tttcaatctc 180
cccactaggt gcaataccct gattatcagt tggtggttcc tcttcttgac gtttttcctc 240
agtgggctcc tggacaatca cagatccaac cggctgggaa gactcttggt catttcctct 300
ttctgaggat tgggatcttg ctcttacaag ctcactcatg gtggatcc 348

<210> 110
<211> 111
<212> PRT
<213> Homo sapiens

<400> 110
Met Ser Glu Leu Val Arg Ala Arg Ser Gln Ser Ser Glu Arg Gly Asn
1 5 10 15

Asp Gln Glu Ser Ser Gln Pro Val Gly Ser Val Ile Val Gln Glu Pro
20 25 30

Thr Glu Glu Lys Arg Gln Glu Glu Glu Pro Pro Thr Asp Asn Gln Gly
35 40 45

Ile Ala Pro Ser Gly Glu Ile Glu Asn Gln Ala Val Pro Ala Phe Gln
50 55 60

Gly Pro Asp Met Glu Ala Phe Gln Gln Glu Leu Ala Leu Leu Lys Ile
65 70 75 80

Glu Asp Glu Pro Gly Asp Gly Pro Asp Val Arg Glu Gly Ile Met Pro
85 90 95

Thr Phe Asp Leu Thr Lys Val Leu Glu Ala Gly Asp Ala Gln Pro
100 105 110

<210> 111
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
oligonucleotide primer

<400> 111
ggatccacca tgattcaaaa gtgtttgtgg cttgagatcc 40

<210> 112
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
oligonucleotide primer

<400> 112
ctcgagtttc ctcctgaata gagctgtaaa tttg 34

<210> 113
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
oligonucleotide primer

<400> 113
ggacttgatc agcaagcaga g 21

<210> 114
<211> 21

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
oligonucleotide primer

<400> 114
ctctgcttgc tgatcaagtc c 21

<210> 115
<211> 603
<212> DNA
<213> Homo sapiens

<400> 115
atgattcaaa agtgtttgtg gcttgagatc cttatgggta tattcattgc tggcacccta 60
tccctggact gtaacttact gaacgttcac ctgagaagag tcacctggca aaatctgaga 120
catctgagta gtatgagcaa ttcatttcct gtagaatgtc tacgagaaaa catagctttt 180
gagttgcccc aagagtttct gcaatacacc caacctatga agagggacat caagaaggcc 240
ttctatgaaa tgtccctaca ggccttcaac atcttcagcc aacacacctt caaatattgg 300
aaagagagac acctcaaaca aatccaaata ggacttgatc agcaagcaga gtacctgaac 360
caatgcttgg aggaagacga gaatgaaaat gaagacatga aagaaatgaa agagaatgag 420
atgaaaccct cagaagccag ggtcccccag ctgagcagcc tggaactgag gagatatttc 480
cacaggatag acaatttcct gaaagaaaag aaatacagtg actgtgcctg ggagattgtc 540
cgagtggaaa tcagaagatg tttgtattac ttttacaaat ttacagctct attcaggagg 600
aaa 603

<210> 116
<211> 201
<212> PRT
<213> Homo sapiens

<400> 116
Met Ile Gln Lys Cys Leu Trp Leu Glu Ile Leu Met Gly Ile Phe Ile
1 5 10 15

Ala Gly Thr Leu Ser Leu Asp Cys Asn Leu Leu Asn Val His Leu Arg
20 25 30

Arg Val Thr Trp Gln Asn Leu Arg His Leu Ser Ser Met Ser Asn Ser
35 40 45

Phe Pro Val Glu Cys Leu Arg Glu Asn Ile Ala Phe Glu Leu Pro Gln
50 55 60

Glu Phe Leu Gln Tyr Thr Gln Pro Met Lys Arg Asp Ile Lys Lys Ala
65 70 75 80

Phe Tyr Glu Met Ser Leu Gln Ala Phe Asn Ile Phe Ser Gln His Thr
85 90 95

Phe Lys Tyr Trp Lys Glu Arg His Leu Lys Gln Ile Gln Ile Gly Leu
100 105 110

```
Asp Gln Gln Ala Glu Tyr Leu Asn Gln Cys Leu Glu Glu Asp Glu Asn
        115                 120                 125

Glu Asn Glu Asp Met Lys Glu Met Lys Glu Asn Glu Met Lys Pro Ser
    130                 135                 140

Glu Ala Arg Val Pro Gln Leu Ser Ser Leu Glu Leu Arg Arg Tyr Phe
145                 150                 155                 160

His Arg Ile Asp Asn Phe Leu Lys Glu Lys Lys Tyr Ser Asp Cys Ala
                165                 170                 175

Trp Glu Ile Val Arg Val Glu Ile Arg Arg Cys Leu Tyr Tyr Phe Tyr
            180                 185                 190

Lys Phe Thr Ala Leu Phe Arg Arg Lys
        195                 200
```

<210> 117
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Description of
Artificial Sequence

<400> 117
ggatccctgg actgtaactt actgaacgtt cacc 34

<210> 118
<211> 34
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:Description of
Artificial Sequence

<400> 118
ctcgagtttc ctcctgaata gagctgtaaa tttg 34

<210> 119
<211> 540
<212> DNA
<213> Homo sapiens

<400> 119
ctggactgta acttactgaa cgttcacctg agaagagtca cctggcaaaa tctgagacat 60
ctgagtagta tgagcaattc atttcctgta gaatgtctac gagaaaacat agcttttgag 120
ttgccccaag agtttctgca atacacccaa cctatgaaga gggacatcaa gaaggccttc 180
tatgaaatgt ccctacaggc cttcaacatc ttcagccaac acaccttcaa atattggaaa 240
gagagacacc tcaaacaaat ccaaatagga cttgatcagc aagcagagta cctgaaccaa 300
tgcttggagg aagacgagaa tgaaaatgaa gacatgaaag aaatgaaaga gaatgagatg 360

aaaccctcag aagccagggt cccccagctg agcagcctgg aactgaggag atatttccac 420
aggatagaca atttcctgaa agaaaagaaa tacagtgact gtgcctggga gattgtccga 480
gtggaaatca gaagatgttt gtattacttt tacaaattta cagctctatt caggaggaaa 540

<210> 120
<211> 180
<212> PRT
<213> Homo sapiens

<400> 120
Leu Asp Cys Asn Leu Leu Asn Val His Leu Arg Arg Val Thr Trp Gln
1 5 10 15

Asn Leu Arg His Leu Ser Ser Met Ser Asn Ser Phe Pro Val Glu Cys
20 25 30

Leu Arg Glu Asn Ile Ala Phe Glu Leu Pro Gln Glu Phe Leu Gln Tyr
35 40 45

Thr Gln Pro Met Lys Arg Asp Ile Lys Lys Ala Phe Tyr Glu Met Ser
50 55 60

Leu Gln Ala Phe Asn Ile Phe Ser Gln His Thr Phe Lys Tyr Trp Lys
65 70 75 80

Glu Arg His Leu Lys Gln Ile Gln Ile Gly Leu Asp Gln Gln Ala Glu
85 90 95

Tyr Leu Asn Gln Cys Leu Glu Glu Asp Glu Asn Glu Asn Glu Asp Met
100 105 110

Lys Glu Met Lys Glu Asn Glu Met Lys Pro Ser Glu Ala Arg Val Pro
115 120 125

Gln Leu Ser Ser Leu Glu Leu Arg Arg Tyr Phe His Arg Ile Asp Asn
130 135 140

Phe Leu Lys Glu Lys Lys Tyr Ser Asp Cys Ala Trp Glu Ile Val Arg
145 150 155 160

Val Glu Ile Arg Arg Cys Leu Tyr Tyr Phe Tyr Lys Phe Thr Ala Leu
165 170 175

Phe Arg Arg Lys
180

<210> 121
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 121
gcctggagat ggtcctgatg 20

<210> 122
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 122
tgagatcaaa agtgggcata ataccctccc t 31

<210> 123
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 123
catcacctgc ttccagcact t 21

<210> 124
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 124
gagcctggag atggtcctga 20

<210> 125
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 125
agatcaaaag tgggcataat accctccctg a 31

<210> 126

<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 126
atcacctgct tccagcactt tagt 24

<210> 127
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 127
cctggctgtc atggcatatg 20

<210> 128
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 128
tgctgcagtc tgcaaacccc tgc 23

<210> 129
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 129
gacgtgggtg catgatgatg 20

<210> 130
<211> 21
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 130
aggagcaacg tcctctgtaa c 21

<210> 131
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 131
cttccaacca cactgagcgg tttgag 26

<210> 132
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 132
acagcatgtc gtccttgatg 20

<210> 133
<211> 95
<212> DNA
<213> Homo sapiens

<400> 133
gtgggaaata tgagtgagct tgtaagagca agatcccaat cctcagaaag aggaaatgac 60
caagagtctt cccagccggt tggatctgtg attgt 95

<210> 134
<211> 95
<212> DNA
<213> Homo sapiens

<400> 134
gtgggaaata tgagtgagca tgtaagaaca agatcccaat cctcagaaag aggaaatgac 60
taagagtctt cccagccagt tgtatctgtg attgt 95

<210> 135
<211> 60
<212> DNA
<213> Homo sapiens

<400> 135
tggaagcttt tcaacaggaa ctggctctgc ttaagataga ggatgagcct ggagatggtc 60

<210> 136
<211> 60
<212> DNA
<213> Homo sapiens

<400> 136
tggaagcttt tcaacaggaa ctggctctgc ttaagataga ggatgcacct ggagatggtc 60

<210> 137
<211> 59
<212> DNA
<213> Homo sapiens

<400> 137
ctgatgtcag ggagggtatt atgcccactt ttgatctcac taaagtgctg gaagcaggt 59

<210> 138
<211> 59
<212> DNA
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